An Intervention Influences and Outcomes Profile for Early Intervention Programs

by

Kathryn Ritter-Brinton ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment of
the requirements for the degree of Doctor of Philosophy in Special Education

Department of Educational Psychology

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Education is a complex, multilevel, highly contextualized system, and any oversimplification of the system is likely to misinform policymakers, practitioners and scholars alike. To 'Get it right'...[is] to capture complexity in a meaningful way so as to elucidate the problem at hand. (Shavelson & Webb, 1995, in tribute to Leigh Burstein).

For my parents, who know a great deal about 'getting it right.'

Abstract

This study investigated the provisional credibility (reliability, validity, and utility) of the items included in the Intervention Influences and Outcomes Profile (IIOP). The IIOP is a rating scale developed for the purpose of describing the relationship of intervention related influences to outcomes in Early Intervention (EI),

as perceived by parents and professionals. The ultimate aim of the IIOP is enhancement of the validity of clinical judgements regarding the focus of service delivery in family-centred service delivery models. The IIOP rests on three foundations. The first is the conviction that a tool is needed that captures a holistic picture of the multidimensional nature of family-centred EI for purposes of planning, implementation, and evaluation. The second is research that suggests the importance to client system outcomes of a good match in beliefs between parents and professionals about how intervention works. The third is the belief that judgement-based assessment is a valid method for exploring the critical edges that have a profound influence on the success of EI.

This study was primarily concerned with the first foundation, that being the characterization of EI-client system interaction portrayed by the items on the IIOP. The influences and outcomes that make up the items were selected based on reviews of the literature and on feedback from parents and professionals who had experience with EI. The IIOP was distributed to parents and professionals in EI programs in Edmonton, the greater Edmonton area, Calgary, and Grande Prairie (N = 510 families, 80 professionals) who consented to participate. Reliability was addressed through a test-retest procedure with consenting families and professionals who had been involved in EI for more than one year. Clinical validity and utility was examined using questionnaires administered to a panel of professional judges with five or more years of experience in EI and with consenting parents. The results of the data analyses provide moderate to strong support for the provisional credibility of the IIOP. Revisions suggested by the analyses are reported in the concluding chapter.

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CHAPTER I
INTRODUCTION

> *Although many acknowledge the importance of families, schools, and children, it seems...that as a people we are either unable or unwilling to take the steps necessary to forge a successful linkage between them. It is in our best interest to do so, not because it is the right thing to do--though it is--but because our survival as a nation demands that we develop methods to accomplish this goal. (Gulotta, 1995)*

This study is the first step in the development of The Intervention Influences and Outcomes Profile (IIOP), a tool for portraying the nature and quality of the family-centred, early intervention (EI) process. The IIOP is a rating scale that evaluates the relationship of intervention related influences to outcomes in EI as perceived by parents and professionals. It is a portrayal as opposed to a measure, in that it results in a profile made up of individual items as opposed to a score resulting from a scale or scales. Portrayal was chosen because the underlying construct of the IIOP, perceptions of the strength of relationships, are unlikely to fall on a single continuum across influence/outcome pairs. The IIOP is intended to describe parents and professionals judgements in respect to these relationships, rather than to *order* them on a single continuum.

Specifically, then, the research question addressed in this study was:

Does the IIOP portray the complexity of EI-client system interaction in a useful, reliable, and valid manner?

The ultimate purpose of the IIOP is to improve the linkage between EI systems and the client systems they serve, with the hypothesized result of improved outcomes throughout the client system. Hypothetically, the improvement of linkage will be brought about by comparison of parent and professional perceptions about the relationship of influence to outcome, and negotiation of a common understanding based on that comparison. Because of the time required to fulfil this formative function, the IIOP is intended for use in programs of at least nine months in duration.

Influence and outcome components for the IIOP were selected based on a multidimensional, systems-based conceptualization of EI, review of the literature, and on feedback from parents and professionals. Program, family, parent, child, and community components comprise the influences. Outcomes include child, parent, family, and community components.

Why is such a tool needed? First, there is a current consensus in the educational research community that process variables are more important than status variables in predicting academic success in children (Scott-Jones, 1995). Second, the current conceptualization of EI defines the client as the family system, (Bailey & Wolery, 1992), signalling a shift from child-centred to family-centred intervention. The IIOP addresses process and interaction between EI and client at a systems level. Very few systems-based, process evaluation tools are available in EI, and those that are address conformity with best practice in family-centred EI (see McWilliam, 1992; Murphy, Lee, Turnbull, & Turbiville, 1995). In contrast, the IIOP focuses on describing what components of intervention are important for what kinds of children in what kinds of families (Dunst, Snyder & Mankenen, 1989; Ryan, Adams, Gullotta, Weissberg & Hampton, 1995).

The IIOP rests on three foundations. The first is the conviction that a tool is needed that captures a holistic picture of the multidimensional nature of family-centred EI for purposes of planning and implementation of optimal services. The second is research that suggests the importance to client system outcomes of a good match in beliefs between parents and professionals about how intervention works. The third is the belief that judgement-based assessment is a valid method for exploring the critical edges that have a profound influence on the success of EI.

Background

> *Here especially we need to overcome the idea, so prevalent in both academic and bureaucratic circles, that the only work worth taking seriously is highly detailed research in a specialty. We need to celebrate the equally vital contribution of those who care to take what I call 'a crude look at the whole' (Gell-Mann, 1994, p xiii-xiv)*

Epistemological Assumptions

Before discussing the foundations of the IIOP, it is necessary to address the question of *how* it is that we come to know about the interaction of EI and client systems and how the IIOP might help us apply that knowledge. Consistent with current models of scientific knowledge, the IIOP employs a realist, transactional lens for portraying and understanding the complexity of EI-client system interactions. Fundamental to the realist lens are three assumptions (Hayes, 1990):

> (a) that humans are active and self constructing organisms, (b) that they are best modeled as complex, dynamic systems open to the influence of a multitude of physical, biological, social, psychological, and sociological factors, and (c) that meaning does not reside in behavior per se, but is socially constructed (p. 3).

The transactional lens (Dewey & Bentley, 1973) is one where "systems of description and naming are employed to deal with aspects and phases of action...such that no one part can be adequately specified apart from the specification of the whole" (cited in Amatea & Sherrard, 1995, p. 108). Dewey and Bentley (1973) argue the historical importance of the transactional level of organization and presentation of inquiry as opposed to less holistic self-action or interaction levels. Manicus (1987) supports this view, contending that "theoretically informed, multicausal history is the human science that has the most significance for us" (p. 279). Few studies have even attempted to capture the complexity in EI-client system interaction intervention from a realist, transactional perspective, (Dunst, Snyder, & Mankenen, 1989; Ritter-Brinton, 1993; Shonkoff, Hauser-Cramm, Krauss, & Upshur, 1992).

The usefulness of the IIOP ultimately hinges on its function as a tool to uncover differences in perception between participants in EI-client system interactions. In making these differences explicit, the possibility then exists for focused redress of problems that can affect both efficacy and efficiency of intervention processes. With this framework in place, discussion of the foundations of the IIOP is now in order.

The Multidimensional Nature of EI

It is first necessary to acknowledge that EI is defined in many different ways. For the purposes of this study, EI is defined as any intervention for children age 0 - 5 years and their families that aims to avoid or ameliorate the negative effects of a handicapping or potentially handicapping condition.

The need to shift from child-centred to family-centred practice in EI is widely accepted, but implementation has proven difficult (McWilliam, 1995; Murphy et al. 1995). Family-centred practices have been defined as those that:

> (a) include families in decision-making, planning, assessment and service delivery at family, agency and system levels, (b) develop services for the whole family and not just the child, (c) are guided by families' priorities for goals and services, and (d) offer and respect families' choices regarding the level of their participation (Murphy et al., 1995, p. 25).

From this definition it becomes clear that family-centred intervention requires a multidimensional, systems-based conceptualization of service delivery. The complexity of this conceptualization creates substantial challenges to the process of identifying the most advantageous targets for intervention with individual families. This implies the need to find a way to examine the complex interaction between EI systems and client systems in a holistic, clinically practical way.

The Individual Education Plan (IEP), or the Individual Family Service Plan (IFSP) are tools that EI programs have used to deal with the challenge of complexity just described. These are documents generated through collaboration with parents that identify EI goals across child and family domains. Although the IEP or IFSP are legislated components of EI in many places in North America, implementation has met with legal, fiscal and structural barriers (Brown, 1991). Furthermore, their scope and utility have been questioned (Beckman & Bristol, 1991; Gallagher & Desimone, 1995). The IIOP has the potential to improve the utility of IEP and IFSP processes by providing a comprehensive, specific scaffold upon which to build.

The Importance of Congruence in Parent and Professional Beliefs

Family-centred intervention rests strongly on an assumption of congruence, or at least compatibility, between families, intervention systems, and communities. The second foundation of the IIOP is a hypothesized relationship to *client system outcomes* of congruence in parent and professional beliefs about influences and outcomes in the intervention process. Testing this relationship requires a way to examine congruence in a manner consistent with the complex structure of EI-client system interaction.

This hypothesis is grounded in literature on the importance to *child outcome* of partnerships, shared values, beliefs, practices, and assessments between parents and education professionals. Child outcome is often, but not always, (as in the case of profoundly handicapped children), the primary goal of EI-client system interaction. It is clear, though, that child outcome both mediates and is mediated by parent, family, and community outcomes. The strength and direction of the relationship between these components of individual client systems and EI systems is not clear (Dunst et al. 1989). Assumed in the theory underlying the IIOP is the belief that improving our understanding of these relationships will improve the efficacy of EI.

The literature about the importance to child outcome of congruence between parents and professionals has its roots in the early works of authors such as Lightfoot (1978) and Seeley, (1981) who traced failure in the school system to the lack of partnership between schools, families and communities. From these roots, a considerable body of evidence has grown, leading to a general consensus that congruence on a number of fronts results in improved child outcomes (Christenson & Conoley, 1992; Ryan, Adams, Gullotta, Weissberg, & Hampton, 1995). This literature resists easy integration, however, because of its diversity in addressing assessments, values, beliefs, and practices across a wide variety of programs. Diversity is also apparent in differing discipline perspectives, including psychology, sociology, education' and early intervention. To further complicate the picture, congruence and compatibility are often undifferentiated in the literature, subsumed under the umbrella of "partnership." In this paper, "congruent" will be taken to mean matching, while "compatible" will be taken to mean mutually supportive, but not necessarily matching. Congruence is a likely, but not necessary aspect of compatibility.

Although the importance of congruence or compatibility in parent and professional beliefs about influences and outcomes has not been specifically addressed in the education literature, such beliefs appear to be a reasonable extension of attributions about child behavior. Attribution theory is concerned with the ways in which we explain and evaluate our own and others' behavior. The attribution literature provides a parallel line of evidence (Kane, 1992) in support of the hypothesis about the relationship to client system outcomes of congruence in parent and professional beliefs about influences and outcomes in EI.

Following an extensive review of the attribution literature, Miller (1995) concluded that attributions affect both parents' behavior and child development. Furthermore, attributions for child behavior are formed early and appear to remain stable. If this trend extends to attributions about process, it suggests the need to make parent and professional attributions explicit as early as possible in order to consider and perhaps optimize their potential effect on long-term child outcome. If Miller's conclusions regarding the potential of attributions to influence behavior and development are taken seriously, then differences in parent and professional beliefs about process have the potential to reduce the efficiency and efficacy of the intervention process. This notion is explored further in the next chapter.

The Need for Judgement-Based Assessment (JBA) in EI

Bagnato and Niesworth wrote the most cited definition of judgement-based assessment in 1988:

> Judgement-based assessment collects, structures and usually quantifies the impressions of professionals and caregivers about child environmental characteristics...Such measures range from those that require *in situ* observation and immediate judgement to those that ask for accumulated impressions over time and situations. (p. 27)

The advantages of JBA include "the scope it offers for examining subtle aspects of the behavior of children" (Hayes, 1990, p. 7). To "the behavior of children," "and the intervention process" should be added. The Fall, 1990 issue of Topics in Early Childhood Special Education was devoted to JBA. Most of the authors described the growing awareness of the need for and recognition of the legitimacy of JBA, primarily in the context of child assessment (see, for example, Fleischer, Belgredan, Bagnato, Ogonosky, & Niesworth, 1990; Hayes, 1990). Assessment of process such as that proposed in the IIOP was rarely mentioned. This seems curious, given the previously stated recognition of the importance of process variables to academic success.

Assessment of process is the purpose of the IIOP--but it is also a tool in the process. To be a tool in the process it must successfully engage the participants in the process. What better way to engage them than to make parents and clinicians part of the tool itself? Hence, JBA. Indeed, proponents of JBA argue that:

> It is important for intervention specialists to identify variables related to convergence and divergence in the judgements made by team members... Evaluating both similarities and differences in reported child behavior and environmental variables across settings and sources can provide valuable insights useful for the development of effective, individualized intervention strategies. (Fleischer et al., 1990, p. 20).

The literature on JBA is an argument for the validity of perception--in the case of the IIOP, perception about the relationship of influences to outcomes. But the reliability and validity of perception has long been hotly debated (see Dahlstrom, 1993; Garb, 1994, Meehl, 1954). The IIOP is based on the premise that reliance on perception is a valid way to address relationships between influences and outcomes. The strengths and weaknesses of reliance on perception in JBA in general, and on the IIOP in particular, is considered further in the discussion of validity in Chapter III.

To summarize, then, the multifaceted nature of EI-client system interaction, and the lack of specificity about what works best in what situations within that interaction beg for a novel approach to the development of useful information to improve efficacy. This study describes the first step in an instrument development process aimed at addressing these issues. The process of answering this question begins with a review of the literature to provide the theoretical grounding for the IIOP. The literature review lays the groundwork for a discussion of the development of the theoretical premises upon which the IIOP is based. The subsequent discussion on validity addresses the link between the theoretical premises and the IIOP, and issues of validity pertaining to the underlying construct of perception of relationship. Validity of content and of the JBA format used on the IIOP is also included in this discussion. This discussion is followed by a description of the procedures used to develop the IIOP, including a preliminary feasibility pilot. Finally, the methods, results, and conclusions of the main study are reported. Because the focus of this study is the portrayal of EI-client system interaction, comparison between IIOP profiles for children with different types and severity of disabilities will not be addressed at this time. Evidence of the validity and utility of the portrayal itself must, of necessity, precede this comparative function.

CHAPTER II

REVIEW OF THE LITERATURE

> *Those who study complex adaptive systems are beginning to find some general principles that underlie all such systems, and seeking out those principles requires intense discussions and collaborations among specialists in a great many fields. (Gell-Mann, 1994, p. xiii).*

The purpose of this literature review is to provide theoretical grounding for the content of the IIOP. This will be done by identifying influences and outcomes thought to be central to efficacy in EI contexts, and to review how these emerged through research and the accumulated experience of practitioners and consumers.

The literature supporting the development of the IIOP comes from early intervention, medicine, nursing, sociology, elementary education, speech-language pathology, deaf education, physics, philosophy, and educational psychology. The integration of information from these disciplines is necessary to the multidimensional conceptualization of the IIOP. Medicine is often intertwined with EI due to the medical management needs of many children with disabilities, although authors from the two literatures rarely reference one another. The nursing literature has been valuable in informing the area of relational ethics, which has direct bearing on the role of relationships in EI. Sociology informs family and community functioning, crucial to family-centred intervention paradigms. Rarely cited in EI literature, the elementary education literature nevertheless reflects on the longitudinal outcomes of EI. The speech-language pathology literature for paediatric populations is closely enmeshed with EI literature, as is the paediatric literature on deaf education. Physics and philosophy offer ways of conceptualizing complex adaptive systems and causality that provide theoretical support for the IIOP. The educational psychology literature crosses many of these boundaries and is useful in the service of integrating the many strands of this review. While discipline of origin will not dictate the organization of this review, this preamble provides a useful platform from which to view the domain of the IIOP.

This review begins with an examination of influences and outcomes pertaining to the family, including the child with a disability or potentially handicapping condition, the parents, siblings, and the family unit as a whole. This is followed by a review of influences and outcomes related to community and personal social support systems. EI systems are then examined with respect to program orientation (child focused, family-centred), the role of relationships in EI contexts, and the influence of information, intensity of intervention, and program-home compatibility. Following this, issues and conclusions related to efficacy research are discussed. Finally, conceptual models that allow the examination of interaction between EI and client systems from a holistic perspective are explored.

The Family

The Child With a Disability or potentially handicapping Condition

The child with a disability is, of course, the reason that EI and client systems interact at all. The welfare of the child is also the primary goal of that interaction. From a family systems perspective, the welfare of the child is mediated by all of the elements of context surrounding the child -- parents, siblings, extended family, community, and personal support networks for the family and child. The child also contributes a substantial amount to this system in terms of ability, temperament, self concept, severity, and kind of disability (Ryan & Adams, 1995).

In a longitudinal, nonexperimental study closely related to the intent of the IIOP, Shonkoff, Hauser-Cram, Krauss and Upshur (1992) investigated developmental change in 190 infants and their families over one year of EI services. The study sample included children with Down syndrome (54), motor impairment (77), and developmental delays of unknown etiology (59). Parental report and standardized measures were employed to investigate the relationship between (a) child and family demographic and health independent variables; (b) mediating variables of home environment, family adaptability, cohesion and maternal locus of control; intensity, structure, location and format of EI services; other than EI community based systems for child therapy and support and community-based parental support systems; and (c) outcome variables of child competence, mother-child interaction, social support, and family adaptation. They concluded that child factors of age, health and temperament were more strongly correlated with child outcomes than were other family demographic variables. Furthermore, severity of disability appeared to be a substantially more productive way to organize meaningful enquiry than did type of disability. In fact, severity of psychomotor disability emerged as the main effect for the child outcomes measured. The authors also cited previous literature supporting the contention that severity of disability is, in general, a significant correlate of more negative family effects.

The Parents

> *The child lives in a 'force field' of pulls and pushes to and from each parent that is calibrated in part by the parent's own relationship. (Doherty & Peskay, 1992, p. 3)*

There is a considerable literature in both EI and elementary education regarding the importance of parental involvement and parental expectations to the success of both typically developing children and of children at risk for handicapping conditions (Dunst, Trivette & Deal, 1988; Epstein, 1987; Hansen, 1986; Henderson, 1989; Kagan, 1984; Masino & Holdapp, 1996; Olson, 1990). In a summary of the EI literature on this topic, Peterson (1987) made the following points:

- Parents are the most significant caregivers, teachers and socializers for children from birth to age 5.
- Parents are in a unique position to enhance or negate the benefits of EI.
- Parent involvement in EI allows parents to develop positive/appropriate expectations and attitudes.
- The success of EI services and the duration of those benefits is directly related to the degree to which parents are part of the intervention process.
- The knowledge and skills related to meeting the needs of their child that parents acquire through involvement in EI have economic benefits (p. 208).

In more recent reviews of the literature, Schaefer (1991), and Ryan and Adams (1995) reported higher test scores and higher teacher ratings of competence for children whose parents reported valuing child self direction than for children whose parents reported valuing child conformism. Higher scores and ratings were also found for children whose parents reported democratic as opposed to authoritarian child rearing beliefs. In addition, parental beliefs regarding the developmental norms for cognitive behavior and parental influence on infant learning was associated with parent and child competence. This finding is reprised in the attribution literature (Miller, 1995).

Parental expectations in the form of press for achievement, appropriate developmental expectations, and expectations regarding completion of education are repeatedly cited as being associated with child achievement (Bodner-Johnson, 1985; Clark, 1983; Marjoribanks, 1995; Masino & Hodapp, 1996; Schaefer, 1991). Also frequently cited in the same studies as associated with child achievement is quality of parent-child interaction (almost always mother-child interaction).

One of the most salient findings of the Shonkoff, et al. (1992) study was that the children of a small subgroup of mothers who showed greater than expected improvement in mother-child interaction also demonstrated greater than expected improvement in child outcome measures. Of particular interest is the fact that no other significant differences were found between these mothers and children and the other mothers and children in the study. The authors were unable to explain this finding at the time of the study, but suggested differences in parent-professional relationship as a possible influence. Parent-professional relationship will be discussed in more detail in the context of EI.

Where do fathers fit in? Fathers have rarely been the subject of specific study in the context of EI or education (Scott-Jones, 1995). There is some evidence that significant differences exist in maternal and paternal reports of sources of stress regarding children with disabilities. Both Shonkoff et al. (1992) and Marjoribanks (1995) found that fathers reported greater stress associated with feelings of attachment to their child than did mothers. Mothers reported more stress associated with personal and familial aspects of parenting.

Differences also appear to exist between mothers' and fathers' ratings of the benefits of EI services. In a 1991 study, Upshur found that mothers rated EI benefits significantly higher than did fathers. In a further breakdown of the data, it emerged that mothers reported receiving the most benefit in the area of emotional support, while fathers rated learning how to advocate for their child and how to meet the needs of other family members as most beneficial. In the attribution literature, Miller (1995) reported that mothers rate their own influence over child development higher than do fathers. From these differences, it is clearly important to consider both mother and father related components when considering EI-client system interaction.

The Siblings

Siblings of children with disabilities, like fathers, have received very little attention in the literature (Alper, Schloss & Schloss, 1996, Atkins, 1987). There is, however, a growing body of literature that suggests that siblings, particularly those close in age, influence each other in significant ways (Teachman, Day, & Carver, 1995). Furthermore, that influence may be amplified in the case of children with disabilities (Alper et al.).

We do not know precisely how siblings affect outcomes for the child with a disability, but based on family systems theories and on parent report, it can be assumed with a fair degree of certainty that siblings both influence and are influenced by the interaction between EI and client systems, just as they influence and are influenced by their brother or sister with a disability. The specific nature and strength of sibling influence in varying situations is far from clear.

Atkins (1987) has studied siblings of children with hearing impairment with respect to the impact on them of having a family member with special needs. She stresses the difficulty of the parental balancing act in achieving equality of interaction and equitable behavioral expectations. Older siblings, especially girls, often assume caretaking responsibilities earlier than do their peers without siblings with disabilities. In addition, brothers and sisters are often placed in the position of having to answer questions about their disabled sibling. These findings strongly suggest the need to involve siblings in EI-client system interactions because of their need for both information and support. This notion is fully consonant with a family-centred intervention paradigm.

Family Functioning

> *Families provide the social capital needed by schools to optimize learner's outcomes (Coleman, 1987, p. 34).*

Just as EI requires a holistic perspective, so do families. It is possible, in analyzing the various components of families, to lose touch with the fact that these components are not separate and independent. Transactional (Sameroff & Chandler, 1975; Sameroff & Fiese, 1990) and ecological family systems theories (Bronfenbrenner, 1977) deal with the family as a whole. Transactional theory stresses the interdependent influences of family members upon each other over time. Bronfenbrenner's ecological extension of family systems theory includes the family's interdependent relationships within its neighbourhood and community, including formal supports such as EI programs and informal supports such as extended family and friends (Bailey & Wolery, 1992). In this view, changes to any part of the system engender changes in other parts of the system (Bailey & Simeonsson, 1988; Montgomery, 1992; Olson & Kwiatowski, 1992). This forms the theoretical basis for family-centred intervention, which will be discussed in more detail presently. Efficacy studies incorporating a family systems perspective are discussed in a later section as well.

Personal and Community Social Support Systems

Personal Social Support

Based on literature describing a positive relationship between social support and parental well-being, (Beckman, 1991; Dunst & Trivette, 1990; Levitt, Weber & Clark, 1986) many EI programs specifically target social support in program goals and methods (Dunst et al., 1988). Koeske & Koeske (1990) suggest that social support networks act as a buffer for negative physical and emotional effects potentially associated with stress. Bailey, Winton, Rouse and Turnbull, (1990), report that the number of sources of social support, and parents' satisfaction with those sources, are associated with personal well-being and family integrity, parental attitudes toward their children with disabilities, influences on parent-child play opportunities, and child behavior and development.

Social support networks of neighbourhood and connected families can also, according to Seeley (1981), play an important part in mediating the structures of education because people identify with, and develop loyalty to, larger groups that go beyond families. Mallory's more recent work (1996) supports this notion. Social support networks may also be more enduring in their influence than EI. Because of this, limiting the focus of EI to children or families, without viewing them in their broader personal community context, fails to take advantage of a potentially powerful agent of change and support for the family and the child.

Community Social Support - Agencies and Services

> *The ability to know and use the resources a community has to offer is a crucial skill for those who work with children. The ability to teach families how to access these supports is equally important (Apter, 1992, p. 497).*

The kinds of support that families require from community agencies and services depends on the structure of the family, the needs and preferences of individual family members, the necessity for childcare, and the availability of services specifically tailored to the needs of family members with disabilities. Locating community agencies and services can be a daunting task, particularly for families who have just received a difficult diagnosis for one of their children. Apter (1992) argues for the necessity of a case manager to assist families in this process.

The importance of collaboration with community agencies for families and for schools is borne out in the education literature. Positive relationships between child achievement and use of community services by families, as well as participation of community agencies and businesses in the schools, have been frequently reported (Heath & McLaughlin, 1987; Schaefer & Edgerton, 1985; Swap, 1992; Wagenaar, 1971). Swap emphasizes the importance of seeing the child, especially the educationally disadvantaged child, in the context of community agencies and services outside of the family.

The Shonkoff et al. (1992) study incorporated the influence of community social support networks. They concluded that families who received child oriented support services from agencies other than the EI service showed a significant decrease in adverse effects of raising a child with a disability. These children also received fewer hours of EI. To many EI practitioners, the evidence is compellingly in favor of including both parental ability to access services in the community, and the development of community support for EI as direct foci of EI-client system interaction.

Early Intervention

The shift from child-centred to parent-child or family-centred EI evolved partially because of concerns regarding generalization of the child's skills to the environment outside the school or clinic. Because children with special needs frequently evidenced poor generalization of skills, including caregivers in the child's treatment was a logical step towards addressing this problem. This notion is certainly not new to the training of parent-infant interventionists. In the early stages of the evolution of EI-client system interactions, caregiver inclusion was often a one-way, clinician-directed activity. The clinician specified the goals and taught the caregiver how to implement the goals, often in a didactic fashion, and often with little regard to the actual context of the home environment (Bazyk, 1989; Vincent,1989; Winton, 1986).

In spite of both legislation and research findings that support the interdependency of the child and the caretaking environment (Dunst, Snyder & Mankenen, 1989; Dunst, Trivette, & Cross, 1986; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987; Werner & Smith, 1982) implementation of multidimensional, family-centred practice has been slow (Kochanek, 1991; McWilliam, 1995). This may be due to a number of factors, including deeply ingrained social perceptions regarding the balance of power in parent-professional relationships held by both parents and professionals (Bergum, 1993; Gadow, 1980), lack of related training of professionals, and lack of support from administrators to shift the emphasis of intervention from the child with special needs to the family with a special needs child. Of all of these stumbling blocks, relationships within the EI-client system may be the largest, albeit the least accounted for, in studies pertaining to EI.

Relationships in Family-Centred EI

> *The crucial issue in successful learning is not home or school -- teacher or student -- but the relationship between them. Learning takes place where there is a productive learning relationship. (Seeley, 1981, p. 11).*

Relationships are the medium through which change is effected in EI, as well as in most of human experience. There are numerous references to the importance of parent-professional, parent-child, mother-father, and sibling relationships in the literature pertaining to EI (see Atkins, 1987; Bailey, et al., 1990; Dunst, et al. 1988; Gallagher & Bristol, 1989; McWilliam, 1995; Raver & Kilgo, 1991; Winton, 1988a). What is the definition of "relationship"? Dunst, Johanson, Rounds, Trivette & Hamby (1992) speak in terms of partnerships that have the following features:

- mutual contributions and agreed upon roles
- desire to work together in pursuit of agreed upon roles
- shared responsibility in taking action to achieve goals
- loyalty, trust, and honesty in all dealings involving the partnership
- full disclosure of pertinent information between partners
- parental locus of decision making in exercising their right to decide what is in the best interest of the family (p. 158)

Studies of the evolution of health care relationships have defined three distinct stages of development -- naive trust, disenchantment, and guarded alliance (Thorne, 1990; Thorne & Robinson, 1988; 1989). The last two stages reflect variance in two dimensions - trust in the health care professionals' expertise, and confidence in one's own ability to make health care decisions (Thorne, 1990). This conceptualization from health care fits the EI context in that EI is often accessed through an initial health care diagnosis, and is not something families typically enter into if they do not have a child with a disability or potentially handicapping condition. The vulnerability and inequitable power structure that exist between parents and professionals in health care environments also exist in many EI environments (Bergum, 1993; Gadow, 1980).

Issues that may affect parent-professional relationships in EI include communication, perception of other in the relationship, structural differences between home and EI program, and the concept of professional dominance held by parents and by professionals (Christenson, Rounds & Franklin, 1992). The *mesh* between the differing roles of parents and professionals is the keystone. The professional's role is achieved rather than ascribed, as it is for parents. Professionals are expected to maintain a universalistic stance (fairness to all children) while parents are specifically focused on their own child. Professionals are also supposed to remain affectively neutral in the service of "objectivity," while parents are intensely emotionally involved with their child (Mendoza & Cegelka, cited by Chrispells, 1987). These differences can provide fuel for conflict between parents and professionals.

Parents interviewed by Peterson and Cooper (1989) regarding desired qualities in the professionals with whom they worked reported that they wanted "skilled friends who'll work with us, think with us, problem solve over daily issues of childcare and child rearing we encounter ... We need an informed, educated, professional partner..." (p. 217).

In a paper dealing directly with the concept of a relationship-based approach to intervention, Kalmanson and Seligman (1992) refer to family-provider relationships as the basis of all interventions (p. 46). The authors describe research findings (e.g., Bowlby, 1989; Heinicke, Beckwith, & Thompson, 1988; Seligman, 1989;) that they conclude have "converged in a general consensus among infant clinician-researchers that relationships are the organizing focus of all early development." (p. 47). The context of this conclusion was primarily infant mental health and psychoanalysis. A previous paper (Affleck, McGrade, McQueeney, &

Allen, 1982) related to EI with children with developmental disabilities also discussed the potential benefits of relationship-based intervention.

What of the influence of child-professional relationship on the client system? Doherty and Peskay (1992) argue than there are no purely child-professional relationships in education contexts, because the family is always a mediator of school outcomes. They suggest, however, that EI can influence the development of children's locus of control as well as their general learning attitude.

Certainly, the premise for intensive, child-focused, group or individual EI is that interaction with the EI system will directly influence child outcomes, and the ability of the program to influence child outcomes is certainly mediated by the child-professional relationship. It is likely that the influence of child-professional relationship becomes stronger over time as the education system takes on greater and greater responsibility for direct teaching of the child.

This notion is supported by the results of an interview study exploring critical teaching incidents with 56 deaf college students (Lang, Dowaliby, & Anderson, 1994). When asked to recall incidents that they believed were indicative of effective teaching, relational elements such as flexibility, helpfulness and warmth were most frequently cited.

Despite pervasive acknowledgment of the theoretical importance of relationships to client and client related outcomes, very little research has addressed this aspect of EI. This may not be surprising, given the difficulty of operationalizing relationships in a manner that allows for convincing measurement.

What, then, can we say about the influence of relationships on the efficacy of EI? Professional experience and a synthesis of the literature supports the following claims:

- No interaction in EI escapes the influence of family-professional relationships or parent-child relationships. These relationships have the potential to mediate child, family and community outcomes in either positive or negative ways.
- Parental expectations (Bodner-Johnson,1985; Doherty & Peskay, 1992; Marjoribanks, 1979; Schaefer, 1991), mother-child interaction (Shonkoff, Hauser-Cram, Kraus & Upshur, 1992), and consistency between home and EI program (Epstein, 1987; Hansen, 1986; Kampfe & Turechek, 1987; Lederberg, 1991; Swap, 1992), all of which are associated in the literature with level of child achievement, are almost certainly influenced by and through a complex web of relationships including the child, professionals, other family members and community members.
- Careful examination of the function of the numerous and varied relationships that exist within the EI-client system is warranted, both in terms of responsible and ethical practice, and in terms of their role in the efficacy of EI, given the pervasive importance ascribed to them in the literature.

The Role of Information

> *It may be said that, for living systems, information replaces energy as the primary operating ingredient, and [living systems] become chaotic when they are inundated by more information than their customary ways of decoding are able to process. (Parry, 1994, p. 13, using Chaos theory as an analogy for family systems).*

Information is a vital component of EI that serves a number of functions. These functions assist parents to understand:

- their child's handicapping condition;
- what special needs their child will have;
- how their child's development will be affected;
- how their role as parents may be altered (Peterson & Cooper, 1989, p. 218).

Peterson and Cooper (1989) point out that, in EI, parents are often receiving information at a time when they are going through a grieving process. Because of this, sensitivity regarding how much and what kind of information is appropriate at any given time is required on the part of the professional. This sensitivity to appropriate timing and amount of information is at least as important as the content of information exchanges.

The influence of kind and amount of information and the way it is shared has received very little attention, although conventional wisdom tells us that communicating information to parents is one of the primary functions of EI. Peterson and Cooper's study addressed the affective domain of information through interviews with parents. The following is representative of the responses received:

> I didn't need or want information in one big, awesome dose. It's a continual need. I want professionals who have the know-how and sensitivity to deliver it at the right time. (p. 218)

Researchers in regular education are beginning to explore the role of information in the study of efficacy. Epstein (1989) discusses two potential areas of research in school contexts: explorations of who is and is not being reached by school information and what the recipients understand of what they get. EI would do well to follow these recommendations, particularly in a family-centred paradigm where the child's home and community context are considered part of the client system. Indeed, if we conceptualize the interaction between EI and client systems as a complex adaptive system (Gell-Mann, 1994), understanding what happens to the flow of information within the system is crucial to understanding the system itself.

Intensity of Intervention

The influence of intensity of intervention for different kinds of children and client systems is another area where accumulated wisdom holds sway over empirical evidence. In a detailed and well constructed review of literature, Dunst, Snyder and Mankenen (1989) concluded that intensity of treatment appeared to covary fairly consistently with program efficacy, but that these results were conditional on the context of EI (home or centre based). Included in that review was a meta-analysis by Casto and Montropieri (1986) that suggested that more intensive intervention was associated with greater effectiveness for children with disabilities from birth to age five.

Shonkoff et al. (1992) examined the influence of intensity with more specificity than did previous studies. Their findings include the following:

- Intensity of treatment was correlated significantly with severity of psychomotor impairment. When severity was controlled for, intensity was not significantly correlated with most of the child outcomes measured.
- For families, total service hours was significantly related to increase in the size and helpfulness of maternal support networks.
- The more disciplines that were involved with the child, the greater were reported levels of parental stress (Since children with more disciplines involved may be more severely handicapped, this finding may be more related to severity of handicap than to intensity of intervention, conceptualized as number of professionals involved).

> Study of the influence of intensity is confounded by (a) differing indicators, (b) difficulty in capturing the number of actual intervention hours between home, EI, and community agency interaction with the child receiving services, and (c) the fact that children with more severe disabilities tend to receive more intensive intervention, but make less measurable progress.

The authors concluded that the effect of intensity of intervention has received inadequate attention in the literature.

Program-Home Congruence and Compatibility

Recalling Chapter One, the importance of program-home congruence or compatibility in terms of priorities, beliefs, assessments and practices is supported by a considerable, although diverse literature. The literature can be roughly organized into studies addressing congruence (match), compatibility (mutual support), and parent involvement.

Studies Addressing Congruence

Swap (1992) maintains that "regardless of the philosophy of the program, continuity in values between home and school reduces conflict for children, reinforces learning and eases transitions between the two environments" (p. 55). This appears to be particularly true for educationally at-risk children.

In elementary education, Hansen (1986) found evidence regarding the importance of match between home and school interaction rules, with greater mismatch correlating significantly with lower grades for students. These findings support Epstein's (1983) earlier longitudinal study of 960 eighth grade students that compared the effects of congruence between home and school in rules of interaction. Epstein concluded that there were clear and continuing advantages reflected by school grades for students when both parents and schools allowed a high degree of child participation in decision-making. Epstein also found a trend toward greater decrease in grades associated with greater differences in rules of interaction between home and school. The importance of congruence between home and school in communication method and fluency to child language and academic outcomes is evident in literature on deaf children (Ritter-Brinton, 1993; 1996). Lederberg's (1991) data regarding language competency in signing deaf preschoolers support the importance of congruence of language models between home and school, as does Kampfe and Turechek's (1987) review of the literature on reading achievement in deaf children. Congruence in assessment of children's abilities has also been the subject of study. For example, Grunland, Olson, Anderson and von Dardel (1990) reported a significant relationship between the degree of goal attainment for children with profound multiple disabilities and negotiated consensus among care providers regarding the children's abilities.

Studies Addressing Compatibility.

Some authors argue strongly for the importance of compatibility as opposed to congruence. Seeley (1981), in a plea for the strengthening of school-home partnerships, offers this potentially competing perspective on congruence:

> Tensions and potential conflict are inherent in educational partnerships because schools and families play different roles. The first step in forging successful family-school partnerships is to recognize that schools and families are different social institutions with different value systems and different types of loyalties ... ... accepting these differences necessitates acceptance of potential conflict between them and finding ... ... ways to live with both. (p. 183)

Seeley describes partnerships between parents and schools as "sharing an enterprise, though their mutuality does not imply or require equality or similarity" (1981, p. 65).

Another challenge, this one regarding the need for congruence in assessment between parents and professionals, is a recent and well considered argument by Suen, Logan, Niesworth and Bagnato (1995), who contend that if parent and professional ratings are expected to be the same, then one of the assessments is redundant. It should be expected that parents and professionals would see different aspects of child development because of differing contexts and differing perspectives, and that both perspectives have equal validity. The authors argue that parent and professional assessments complement each other, allowing for enhanced ecological validity.

Studies Addressing Parent Participation

Much of Epstein's work (1986, 1987, 1989), focuses on parent involvement in the school, ranging from basic obligations of care, provision of school supplies and home conditions supportive of learning, assisting with administration through involvement on school advisory committees and/or fundraising, attending school functions, and workshops and direct involvement in the child's learning activities. In a recent presentation on Home-School Collaboration, Epstein (1994) reported on a study of 600 Maryland schools in which the children who learned best were the ones with families and schools sharing responsibilities. Her work and that of others converges in support of the conclusion that parent involvement at some, but not necessarily all levels, makes a significant contribution to student success (Coleman et al., 1966; Clausen, 1966; Leichter, 1974; Lightfoot, 1978; Marjoribanks,1979; McDill and Rigsby, 1973).

There is, at present, no consensus about what kinds of involvement, support, compatibility or congruence are most important to individual client system or child outcomes From this discussion, however, it is apparent that there is adequate evidence to support the plausibility of a hypothesized connection between congruence in parent and professional beliefs about influences and outcomes and client system outcomes.

Trends in Efficacy Evaluation in EI

To reiterate, the ultimate purpose of the IIOP is to improve client-system outcomes through a process of negotiated understanding between parents and professionals about the relationship of influences to outcomes in EI-client system interaction. Distilled down to the essence, this means improving the validity of decisions regarding the foci of intervention for individual client systems. Decisions about the most advantageous foci for intervention are, essentially, decisions about the efficacy of methods and programs--formulating an answer to the question of what works best for what kinds of children in what kinds of families. As we shall see from a summary of the literature pertaining to the evaluation of efficacy in EI, this level of specificity is generally unavailable. Barriers to specificity in efficacy research include the complexity of EI-client systems interactions, and ethical, financial, and time constraints on the kind of research we are able to do in EI contexts.

Literally hundreds of studies have explored efficacy, and numerous reviews of this literature are available (Bailey & Bricker, 1984; Bricker, Bailey, & Bruder, 1984; Bryant & Ramey, 1987; Casto & Mastropieri, 1986; Dunst, 1986; Dunst, McWilliam, & Trivette, 1985; Dunst & Rheingrover, 1981; Ferry, 1981; Fewell, 1985; Gibson & Fields, 1984; Guralnick & Bennet, 1987; Halpern, 1984; Honig, 1983; Reynolds, Egan, & Lerner, 1983; Simeonsson, Cooper, & Scheiver, 1982; White & Casto, 1985). In addition to these, Bush and White (1983) cited 64 studies of early intervention efficacy prior to 1983.

Why so many? It is partially due to the fact that EI encompasses a wide range of educational, therapeutic, and support activities, so that efficacy literature related to specific disabilities or contexts has contributed to the accumulation of research under the general rubric of EI. The amount of energy invested in efficacy research in EI may also be influenced by the elusive nature of efficacy in this context. Efficacy is defined in many different ways, and is the product of an extremely complex phenomenon.

Despite the wealth of research, the empirical evidence of efficacy for EI is equivocal at best. This was the conclusion reached by Dunst, Snyder and Mankenen (1989) in a detailed analysis of 104 EI efficacy studies, including five meta-analyses.

Trends in Results

Several trends in the results of efficacy research have emerged from this substantial body of EI literature (Dunst, Snyder, & Mankenen, 1989).

- Age of entry, intensity, and duration of treatment appear to covary fairly consistently with program efficacy, but these tend to have conditional effects, being more applicable to centre-based than to home based interventions.
- Severity of handicap is related to amount of progress with greater severity resulting in less progress. The effect of intensity of intervention may be confounded, since the more severely involved the child is the more intensive intervention usually is (Hauser-Cram, 1994).
- Many factors connected with outcomes appear to be mediational in nature, reinforcing the notion that EI is much more than a simple cause and effect proposition.
- Programs that measure efficacy across a range of influences and outcomes tend to report greater efficacy results than programs that employ a narrow range of influences and outcomes.
- Programs that tailor assessments and interventions to individual needs are more likely to be successful than those that do not.

Possibly the most convincing evidence of the efficacy of EI comes from longitudinal research with socially disadvantaged children in Head Start and the High/Scope Perry Preschool Study. The Perry Preschool Study employed random assignment to treatment and no treatment control groups. Subsequent analysis of data yielded significant differences favoring the group that received EI in terms of higher rate of high school completion, lower incidence of delinquency and higher income through age 27 (Schweinhart & Weikert, 1993).

Longitudinal data of this nature, particularly employing random assignment to treatment and no treatment control groups, is generally unavailable for children with disabilities receiving EI. We are ethically, and often practically, unable to employ comparable methods to demonstrate whether these trends for socially disadvantaged children also apply to children with disabilities, although the continuing non-experimental study by Shonkoff et al. (1992) is making inroads on the development of a longitudinal data base for some elements of this population.

Trends in Approaches to the Study of Efficacy in EI.

Trends regarding approaches to the study of efficacy also emerge from the literature:

- Studies have proceeded from general binary questions (effective\not effective) to more specific questions regarding which elements of intervention work for which children, either directly or conditionally (Dunst et al. 1989, Guralnick, 1988).
- The focus on child outcome as the sole indicator of efficacy is now expanding to include parent, family and community outcomes, (Dunst et al. 1989; Weiss & Jacobs, 1988).

- Evaluation processes are beginning to include families as collaborators and participants (Clark, Scott, & Krupa, 1993, Crais, 1993).
- Assessment of family function is expanding from an exclusive focus on levels of stress to include coping strategies, resources, social supports, appraisals of their situation and overall adaptation (Freeman, 1989; McCubbin & Patterson, 1981; Kysela, McDonald, & Brenton-Hayden, 1992).
- Program evaluation in general is shifting from external-summative evaluation to internal-formative evaluation, with evaluation built into the program at its inception (Love, 1993).

Controversies in Efficacy Evaluation

While arguments advocating the need for multi-trait, multi-variate approaches (Dunst et al. 1989; Weiss & Jacobs, 1988) to exploring efficacy are persuasive, this course is not without pitfalls. The first of these is the issue of invasiveness. Roberts (1991) suggests that family-centred approaches to intervention are, by definition, more intrusive than child-centred approaches, and that it is important for professionals to distinguish between invited and uninvited intrusion.

Considerable debate exists over the use of formal measurement in family-centred, EI contexts. Goodman and Hover (1992) assert that measurement, per se, is not necessary, and that use of formal measures may, in fact, interfere with the development of effective parent-professional relationships. Other concerns in this realm include the possibility of compromising the privacy of families and of conveying unintentional messages regarding family dysfunction or pathology (Slentz & Bricker, 1992). Nevertheless, many researchers advocate the use of formal assessments as a way of clarifying family strengths and needs and of evaluating progress (Beckman & Bristol, 1991; Dunst, Trivette, & Deal, 1998; Garshellis & McConnell, 1993; Kysela, McDonald, & Brenton-Hayden, 1992; Wiles, 1993).

The literature regarding parent preferences about assessment is mixed. Focus groups of parents across several locations in the United States reported that parents strongly preferred informal interview-based assessment over standardized measurement approaches (Summers et al, 1990). This finding has been substantiated by other researchers (Turnbull, Turnbull, Summers, Brotherson, & Benson, 1986). On the other hand, Sexton, Snyder, Rheams, Barron-Sharp, and Perez (1991) compared parent and professional perceptions regarding the appropriateness of length of three surveys used in the family assessment process. Although 50% of the professionals felt that the surveys were too long, 90% of the parents felt that they were appropriate in length. The documented effect of parents' desire to please the professionals with whom they work (Clark, Scott & Krupa, 1993; Sabourin, Bourgeois, Gendreau & Morval, 1989) may have influenced this result. Parental and professional reactions to the nature of the questions on the surveys was not addressed in this study, leaving considerable room for curiosity.

Other general debates regarding program evaluation and efficacy research include technical quality versus user responsiveness (Greene, 1990), the merits of qualitative versus quantitative methods (Murray, 1992; Patton, 1990), the merits of goal attainment scaling (Bailey et al, 1986), and the merits of family-centred interviews as assessment and evaluation tools (Winton, 1988b).

Summary and Conclusions Regarding Efficacy in EI.

To summarize, the elements included in efficacy research, the methods employed in investigations of efficacy, the characteristics of the participants, the biases of the researchers, the nature of the research questions posed, and the contexts in which efficacy investigations take place, vary widely. This lack of consensus, combined with the immense complexity of the relationships that exist within EI contexts, presents gargantuan challenges to organizing assessment, process and outcome data in a way that allows for valid interpretation capable of producing firm conclusions regarding efficacy. There are conceptual models that provide some assistance in the organization of data in this complex web, but methods and tools capable of capturing the 'big picture' are lacking.

The IIOP may be of service in this capacity. It employs parent and professional perception of relationship to obtain a highly specific profile of the strength and direction of a wide range of influences on outcomes, both centrally and peripherally related to efficacy in EI. Its response format yields a profile that is both highly individual and easy to compare across type and severity of disability, type of program, training of professionals, background of parents, and a number of other variables suggested by the literature as related to efficacy. Because data from the IIOP have the potential to be combined in this way, it may offer a way to address the lack of specificity in the EI literature about what components of the intervention system are most important for what kinds of client systems. It remains to be seen, of course, whether data from the IIOP will produce trends stable enough to be of service in this way, but the possibility is tantalizing.

Conceptual and Organizational Models

Martin (1993) aptly refers to the need for "an intricate framework" (p. 4) for incorporating assessment information into family-centred EI paradigms. The central challenge of this project has been finding a way to conceptualize and operationalize the complexity of the interaction between EI and client systems in a way that allows for clinically useful examination. Gell-Mann's discussion of effective complexity in describing complex adaptive systems served as useful starting point in this endeavor. Beginning with a brief discussion of the central points of Gell-Mann's theory of complex adaptive systems, a conceptual bridge is then constructed from physics to EI by way of sociology in making use of Epstein's (1987) model of school and home interaction. This bridge forms a viable link to the portrayal of the interaction of influences and outcomes on the IIOP.

Complex Adaptive Systems

In his description of complex adaptive systems, Gell-Mann includes " ... a human child learning ... language, the scientific community testing out new theories, an artist getting a creative idea,...a computer programmed to evolve new strategies for winning at chess..." (p. 9). To this list, the interplay of EI and client systems could reasonably be added.

Simplistically speaking, the study of complex adaptive systems follows the trail of information strings as they enter the system, and are used by it to generate schema for acting in the real world, receiving feedback, and modifying schema based on that feedback. There is clear acknowledgement that cause and effect are not unidirectional, but interact in an ongoing dance that can be examined in terms of the behavior of the information by which they are characterized.

Gell-Mann speaks in terms of "effective complexity" as the best way to penetrate the workings of complex adaptive systems. Effective complexity acknowledges the coarse-grained texture of a holistic picture, but allows for a degree of fine tuning. It does so by constraining the description to regularities within the system as opposed to attempting to capture both regular and random features. The proposed IIOP has the potential to do precisely this -- assist in the development of a better understanding of EI-client system interaction at a level of effective complexity that will allow us to make use of the portrayal to fine tune the workings of the systems interface.

Epstein's Model of School and Home Interaction

While several authors have recently suggested models of how the family influences a child's school experience (Marjoribanks, 1995; Ryan & Adams, 1995), models of how families and schools interact with *each other* are noticeably lacking. Epstein's (1987a) model of school and home interaction is the exception. Nicely consonant with Complex Adaptive Systems theory, Epstein conceives of the school and the home as overlapping circles. The model describes "school-like homes" and "home-like schools". The degree of overlap between the circles is influenced by three forces - (a) time/age/grade level of the child, and experience and philosophy of (b) the home and (c) the school. In general, the younger the child, the greater the overlap, although there are exceptions.

Information flow is dealt with in the internal structure of the model which addresses within and between organization interactions. The components included in the interactive structure include: (a) the child, in the central position as the reason the systems interact in the first place; (b) the family, (c) the school, (d) parents and, (e) teachers.

Epstein's model goes a long way towards representing school and family interaction and incorporates the notions of flexible boundaries and information flow that appear to be required to match the actual nature of the interaction. It fails, however, to account for as for community influences and outcomes. The structure of the IIOP borrows from both complexity theory and from Epstien's conceptualization of overlap between EI and Client systems.

CHAPTER III
RATIONALE FOR THE DEVELOPMENT OF THE IIOP

> *With context now defined as the micro, meso, exo and macrosphere of all social institutions from the most proximal to the most distal, it is impossible to use traditional research models... It is a testament to the motivation of behavioral scientists that, despite the growth in complexity, they continue to wrestle with these issues. (Sameroff, Commentary in Shonkoff et al., 1992).*

This chapter begins with a discussion of validation issues that apply in both a general and a specific way to this project. This discussion sets the stage for a description of the development process of the IIOP, and of the resultant prototype used in this study.

Validity Issues

> *The brain is a universal measurement device acting on the quantum level. (Grossberg, 1982, cited in Kosko, 1993, p. 201).*

Kane (1992) provides an attractive way of framing this discussion. He suggests structuring validation arguments by first identifying the interpretive argument, and the assumptions inherent within the argument. Once the argument has been identified, a preliminary case for its plausibility is developed. Three criteria are then proposed for evaluating these arguments -- clarity, coherence, and plausibility of assumptions. Maguire, Hattie and Haig (1994) characterize this phase of Kane's structure for argument-based validity as formative, with the summative phase requiring serious empirical challenges to the interpretive argument. Since the IIOP is in the experimental stage, the discussion of validity will be formative in nature.

Construct validation is concerned with the gathering of evidence regarding the appropriateness of the interpretation of test scores proposed for a given measure (Loevinger, 1957; Messick, 1989; 1995). Although the IIOP generates a profile rather than a score, it is intended to provide a valid, holistic comparison of parent and professional beliefs regarding the strength of influence on outcome in EI. This interpretation assumes:

- The validity of the transition from theoretical premises to instrument.
- The validity of the items selected to portray EI-client system interaction.
- The validity of addressing causal relationships (strength of influence on outcome) in a judgement-based format, which assumes the validity of perception.
- The validity of the assertion that congruence between parent and professional perceptions about the relationship of influences and outcomes is important to the achievement of optimal outcomes in EI client system interaction.

Let us begin, then, with the transition from the theoretical bases described in Chapter Two to the IIOP.

The Transition From Theory to Instrument

In order to remain true to the theory upon which it is based, the IIOP required several features. It required portrayal versus measurement because of the nature of the underlying construct, perception of relationship, and because of the intended use of the results. It required the possibility of variance along the dimensions of strength and direction of influence. And it required congruence between the components of the theory and the items of the IIOP, both in terms of item specificity and domain specification. This last requirement will be addressed in a separate section, but the first two will be dealt with here.

In the Introduction, the use of portrayal versus measurement on the IIOP was argued for on two fronts. The first was that the underlying construct of the IIOP, perception of relationship, is unlikely to occur on a single continuum across influence/outcome pairs. Measurements assume both a single continuum and an additive structure. But as Manicus (1987) points out and as Maguire et al. (1994) affirm, neither causes (nor perceptions of causes) are likely to be additive. Such an assumption would violate Kane's criterion of plausibility.

The second argument for portrayal is that the IIOP is intended to *describe* parents and professionals in respect to this construct, rather than to *order* them on a single continuum, (Maguire, Hattie & Haig, 1994). Measurements order. Portrayals describe. The theoretical premises demand that the IIOP describe.

The theortical premises also require that influences be allowed to vary in terms of strength and direction. Because of this, The IIOP employs a nine point rating scale relating influences to outcomes. The scale ranges from -4, (very strong negative influence) to +4 (very strong positive influence), with 0 interpreted as no influence on outcome. A nine point scale is employed, as opposed to the more common seven or five point scale, because of research on health outcomes that suggests that client ratings of satisfaction that are associated with actual differences in compliance are at the extremes of the satisfaction scale (Kaplan & Ware, 1989). The construct of "perceived strength of influence" requires maximum possibility for variance within reasonable limits. A nine point scale appeared to be the best option to accommodate that requirement. In addition to the nine point scale, a "can't decide" category and a "doesn't apply" category were provided. These categories were required because of the variability inherent in the complexity of EI-client system interaction. Each subsequent section in the discussion of validity addresses some aspect of the validity of transfer from theory to instrument, as well as the assumptions underlying the interpretive arguments.

Validity of Content

Validity of content in this instance refers to adherence to the theoretical premises, inclusiveness in support of the claim to a holistic representation of EI-client system interaction, and effective complexity in support of the claim of practicality and utility. The influence and outcome components on the IIOP are directly linked to those discussed in the theoretical premises, thus satisfying the demand for fidelity. Validity of item content is further supported through the use of parent and professional feedback in the developmental process. Further evidence was gathered through content analysis of parents' and professionals' definitions of influences on the IIOP forms, and of followup questionnaires that included respondents' definitions of the outcomes, as well as their evaluation of the inclusiveness and appropriateness of content. The results of these analyses will be discussed in Chapter Five.

The Validity of Perception in the Context of Judgement-Based Assessment (JBA)

It seems appropriate to open this discussion by contending that the possibility that judgements of parents and professionals involved in EI are not always valid, sometimes wrong-headed, and occasionally insensitive, is irrelevant in the context of this study. This is so, because it is those wrong-headed, occasionally insensitive, self-serving judgements that we are trying to uncover so that the EI process can proceed more effectively. Further, reliance on perception of relationship between influences and outcomes on the IIOP is defensible because it is not the truth value of the responses that will ultimately be judged, but the match between parent and professional responses. Differences in profiles filled out within the first few months of a program can be used to identify differences in parent and professional beliefs with a high level of specificity. Once identified, a basis for discussion is established that has the potential to improve the match of services to families. Having said that, the literature both critiqueing and supporting the plausibility of the assumption of validity of perception in general, and the validity of perception of causal relationships in specific, will now be examined.

Information regarding the validity of parent and professional judgements is found in the literature on attribution, JBA and measurement within specific disciplines. One of the primary issues in considering the validity of parent or professional reports is the standard or criterion by which validity is judged. In some cases, professional judgement or diagnosis is used or implied as the standard for the validity of parent report (Canning, Hanser, Shade, & Boyce, 1992). This happens despite the fact that there is a considerable amount of documentation regarding differences between parent and professional ratings of efficacy, child behavior, and identification of goals and priorities (Canning et al. 1993; Garshelis & McConnell, 1993; Gray, 1993; Lee, Penner, & Cox, 1991; Prager & Tanaka, 1990). The question of whether or not the professional rating is, in fact, more valid is rarely raised, and the possibility that validity lies within the difference itself has not received the attention it merits (Suen et al., 1995) .

Standardized tests and functional assessments have also been employed in much the same way as have professional ratings as the criterion against which the validity of parent report is judged (Coulton, Holland, & Fitch, 1984; Dale, 1991). Depending upon the construct of interest and the criterion employed, both positive and negative conclusions regarding the validity of parent and professional reports have been reached based on empirical evidence.

In a review of the attribution literature, referred to in Chapter Two, Miller (1995) discusses valence effects as a possible source of invalidity influencing parent and professional attributions about child behavior. Valence effects result in raters attributing positive outcomes to internal causes (themselves, the program, their family) and negative outcomes to external causes (community influences, peers). Furthermore, both parents and professionals appear to be prone to making attributions that reflect positively on the child - a bias that appears to be stronger for parents.

From a measurement perspective, Dahlstrom (1993) joins Meehl (1954) in strongly critiqueing human judgement as a reliable and valid assessment tool. He cites assignment of stereotypes that cause important differences to be overlooked, overemphasis of deficiencies at the expense of strengths, positive and negative haloes, and pervasive errors of central tendency as likely threats. Manicus (1987), a critical realist philosopher who argues strongly in favor of the validity of perception, also cautions:

> Social science needs to do more than give a description of the social world as seen by its members... ... it needs also to ask whether members have an adequate understanding of their world, and, if not, why not...It may be that the understandings that agents have of their social worlds is incorrect (p. 268).

Some of the advantages of reliance on perception in the form of JBA were discussed in Chapter One. From this discussion, it is clear that JBA offers advantages in terms of using parents as well as professionals as data sources that can result in improved parental involvement in and understanding of their child's intervention, that many believe maximize the validity of assessment results

(Fleischer et al., 1990). Like all measurement strategies, it also has its drawbacks. The IIOP represents the most risk-laden JBA format.

The response format used on the IIOP assumes the ability of the respondent to reconstruct a complex situation from limited written material. Furthermore, the very act of asking the question may be the impetus to form a judgement if the respondent has not considered the question previously (Hayes, 1990). This may have a negative effect on reliability, especially when respondents are asked to draw upon accumulated perceptions across time as is the case on the IIOP (Fleischer, et al., 1990). This complexity is unavoidable, due the complexity of EI-client-system interaction. The validation process described in this study is aimed at determining the most effective level of complexity for the portrayal of EI-client system interaction. It is possible, even hoped, that the level of complexity of the portrayal can be reduced.

With these cautions in mind, attention may now turn to arguments supporting the validity of perception in the context of JBAs, beginning with Garb's (1993) response to Dahlstrom's critique. In an earlier review of studies on incremental validity in assessment, Garb (1984) reported that the validity coefficient was higher (.566) when clinicians based their assessments on biographical and interview data than they were when assessments were based on biographical and MMPI data (.378). When MMPI data were provided in addition to biographical and interview data, the validity coefficient increased by only .029. Garb asserts that psychologists and lay people are often able to make valid judgements.

Returning to Manicus, (1987) -- with cautions established, his argument continues:

> Because social structures are incarnate in the practices of persons, this means that they do not exist independently of the *conceptions* of the persons whose activities constitute them. It is because persons have beliefs, interests, goals and practical knowledge... ... that they do what they do, and this sustains (or transforms) the structures. (p. 275)

The majority of family assessments in EI and other disciplines are based, at least in part, on parent or professional ratings or report. In health care, Kaplan & Ware (1989) provide a detailed examination of the patient's role in quality assessment. They begin with the assertion that:

> Patients may be the only source of certain kinds of health outcome information central to quality assessment. Only the patient can tell ... ... how much an illness extracts in human terms, only the patient can evaluate his or her sense of well-being... (p. 44-45).

The authors go on to contend that the best way to access the unique information that patients possess is directly, through surveys, often in the form of rating scales. Within their argument, the authors cite research that demonstrates a link between clinical measures of health and client reported outcomes.

The Validity of Perception of Causal Relationships

Debates about validity are often debates about the nature of causality. Cook & Campbell (1979) and Cronbach (1980) rely on the notion of regularity in observation in their concept of causality, with the actual causal nexus remaining unobservable. Very much oversimplified in the service of brevity, Cook and Campbell aspire to the identification of universal laws through the application of regularity theory. This depiction of the nature of acceptable causal evidence is about prediction and control. But Manicus (1987) argues that prediction and control does not always add up to understanding, in the sense of explaining patterns generated by interactions. Indeed, as suggested previously, causes are unlikely to add up at all.

Cronbach describes less confidence in the discovery of universal laws due to the complexity of social phenomena, and includes the interpretation of the consumer of research in his conceptualization of validity (Cronbach, 1989). In the study of efficacy in EI described in the literature review, both specificity and holism have been held hostage by these classical notions of what constitutes acceptable evidence of a causal relationship.

Searle (1983) and House, Mathison and McTaggart (1989) offer Intentionality Theory as another way to conceptualize validity. This perspective places the causal nexus within experience, as in the experience of thirst being quenched by drinking water, or in the way in which teachers make decisions regarding useful strategies. In this way the answer to the causal question may be known through a single experience, without reliance on regularities in repeated observations. House et al. argue that this conceptualization of validity, which relies on logic and experience, is more important to the conduct and improvement of professional practice than the two previously discussed. They assert that practitioners need ways of improving the quality of their causal inferences using all three conceptualizations of validity. Because of its reliance on personal experience and human judgement, the IIOP fits comfortably within the framework of Intentionality Theory.

Validation of the Importance of Congruence

Miller (1995) examined the sparse literature concerning congruence between parents' and professionals' attributions concerning child behavior, finding little agreement. For example, there was some evidence that parents weighted the contributions of teachers higher than teachers rated themselves. In pointing out the possibility that at least one judge was inaccurate as an explanation for these differences, Miller curiously fails to acknowledge the influence of context as a source of differences in parent and professional attributions. Despite this, and numerous references to the lack of congruence in parent and professional judgements cited in earlier sections, the hypothesis about the importance of congruence in parent and professional beliefs about the relationship of influences to outcomes in EI enjoys enough parallel support (Kane, 1992) to be plausible.

In fact, the documented lack of congruence between parents and professionals begs for a practical way to understand those differences, and to make use of them in the service of improving efficacy. Certainly, one of the foundations of family-centred intervention is the matching of program services to family-identified needs with the intent of achieving a good match between home and program. The extent to which the match is actually achieved, given its attributed importance to child and family outcomes, merits considerably more study than it has received. The IIOP has the potential to allow us to examine degree of match in the beliefs of parents and professionals that is not currently available.

Concluding Thoughts About the Validity of the IIOP

The classic definition of construct validity is concerned with how well the indicator represents the construct. In attempting to stay close to the constructs that describe the relationships in EI-client systems, Kaplan and Ware's (1989) assertion of the value of asking the opinions of those involved in the process appears to be a reasonable way to begin the search for better means to examine these complex relationships within a single, unified framework.

Loevinger's (1957) consideration of rating scales may be taken as support for this notion.

> As they (rating scales) are ordinarily used, the trait rated is identical with the trait in which one is interested, and the problem of substantive validity cannot arise. Similarly, the question of structural

> validity cannot arise in the case of a single rating of a trait, since the rater is expected to weigh and evaluate all the manifestations before making his rating. The sole criterion for this kind of rating is external validity. (p 113).

Loevinger's point is well taken. In fact, as far as measurement is concerned, only in a rating scale format is it possible to incorporate the experience, discernment and intuition of the respondents necessary for making sense out of complex interactions. It is questionable, however, that external validity is the only criterion for judging rating scale tools. The issue of reasonableness of content, conceived by Loevinger as a part of the substantive component of construct validity, can create problems in a rating scale such as the IIOP. Such a tool requires careful justification of content based on theory, research, and experienced judgement. The content and the response format proposed for the IIOP has at least adequate grounding in these sources of validation based on the information presented in this thesis.

Specifically, then, construct validity evidence for the interpretation of the IIOP has been or will be developed in the following ways:

1. Validity of content and format is supported through the literature review and through the use of parent and professional feedback.
2. The construct validity of the hypothesized conceptual boundaries around the influence and outcome constructs was examined through content analysis of definitions provided by parents and professionals and through followup parent and professional questionnaires about the inclusiveness and appropriateness of content of the IIOP.
3. The clinical validity and utility of the IIOP was further investigated using followup questionnaires to parents and an expert panel of professionals.

Development of the Influences and Outcomes Profile (IIOP)

To review, the IIOP is based on the theoretical links between EI and client systems presented in the previous chapter. The parent prototype used in this study is in Appendix A. The IIOP is a portrayal tool, the results of which can be represented in pictures through graphing of results. The development of the IIOP began in 1992.

Item Selection

Item selection was based on the literature review and on feedback from parents and professionals. Feedback was elicited in a variety of formats.

In the early stages of development, two professionals and four parents participated in individual think-aloud processes with the principal researcher. This involved the participants providing a verbal description of their process as they filled out the prototype forms. An item regarding siblings was added at the suggestion of several of the parent participants. Changes were made in the form after each think-aloud process prior to presenting it to the next participant. The final participants were able to fill the form out independent of additional verbal instructions. Seven other professionals provided less formal feedback during the initial development process.

The literature review supported parent and professional feedback in the process of item development. Child, parent, and family functioning components were clearly necessary to any portrayal of EI-client system interaction. Based on differences in both patterns of stress, and in attributions of mothers and fathers, it seemed important to consider both mother and father related components when considering EI-client system interaction. The parent reviewers' insistence of including siblings in the portrayal is supported in the literature, because of siblings' need for both information and support and because of their interactions with their sibling involved in EI.

Community agency and personal support systems also emerged in the literature as important components in EI-client system interaction as a potentially powerful agent of change and support for the family and the child, mandating inclusion in the IIOP. Inclusion of the parent-professional and child-professional relationships that exist within the EI-client system was also clearly warranted. This is justified, both in terms of the pervasive importance ascribed to them in the literature, and in terms of the reviewers' confirmation of that importance.

Information was identified as a necessary component, because understanding what happens to the flow of information within the system is crucial to understanding the system itself. The influence of intensity of intervention was not clear in the review of the literature. Its inclusion in the IIOP has the potential to increase understanding of this component.

The Feasibility Pilot and Subsequent Revisions

A small feasibility pilot was carried out in April and May of 1995. The purpose of the pilot was to uncover potential procedural problems that might affect the main study, and to investigate the user-friendliness of the prototype IIOP form. The pilot involved parents and professionals in three long term (nine months' duration) programs at a large, metropolitan rehabilitation hospital. As noted in Chapter One, long term programs are necessary to the formative intent of the IIOP. The time required to make changes in service delivery suggested by comparisons of parent and professional IIOP profiles is simply not available in programs of less than six months in duration.

IIOP forms were sent to parents selected by program personnel as likely to be both receptive and able to participate. Parents returned 12 out of 36 forms, a 30% response rate. This rate is similar to that reported by Murphy, Lee, Turnbull, and Turbiville, (1995) in their pilot of The Family-Centred Rating Scale. Professionals were asked to fill out IIOP forms on children whose parents returned the survey. Eleven out of 12 possible responses were received from professionals.

Following this, a convenience sample of approximately 50% of the parent and professional respondents were informally interviewed about their experience in filling out the form. Most of the respondents expressed discomfort with its visual complexity. Concurrent with this preliminary study, discussions with the directors and many of the staff of six EI programs in Edmonton took place. The majority of these programs expressed interest in participating in the study, but also expressed discomfort with the form.

Based on this feedback, a graphics artist was hired, and the form was redesigned. Subsequent feedback from EI programs was favorable. For both the preliminary study and the present study the IIOP was presented in the form of separate but parallel parent and professional rating scales. This was done at the recommendation of EI professionals who were involved in the development of the IIOP. As described in the discussion of fidelity to the theoretical premises, the prototype for both studies incorporated a nine point scale, ranging from -4 to +4, with 0 signifying neutrality. The "Can't Decide" and a "Don't Know" response choices, described earlier, were coded as missing data. The ratings indicated strength and direction (positive or negative) of the relationship of influence to outcome.

Influence components included (a) the parent-professional relationship, (b) parental skills and resources, (c) how the family works, (d) the child, (e) intensity of intervention, (f) information (g) the child-professional relationship (h) community services and agencies other than the EI program and (i) personal social support. Outcome components included (a) child outcomes, (b) parental expectations, (c) mother-child relationship, (d) father-child relationship, (e) degree to which home and program complement each other in meeting the child's needs, (f) family's ability to cope with stress related to the child's problems, (g) reactions and interactions of brothers and sisters, (h) the quality of support for the child from community agencies other than the EI program, and (i) the quality of the personal social support system.

The overlap between influences and outcomes is intentional because it conforms to the nature of EI as found in the literature and to the theoretical premises upon which the IIOP is based. Many of the components are conceived of as occurring on a continuum from the status of influence to the status of outcome rather than occurring as separate cause and effect entities. The resulting Influence/Outcome matrix used to graph results for the prototype IIOP is in Appendix B. Table 1 (p. 64) provides a summary of the influences and outcomes included in the prototype IIOP.

In order to investigate the stability of the conceptual boundaries around these constructs, respondents were asked to write a brief definition for each influence in spaces provided on the IIOP form. Definitions for outcomes were addressed on followup parent and professional questionnaires. The results of the content analysis of respondents' definitions of influences and outcomes is reported in Chapter Six. The respondents' definitions provide the criteria against which the accuracy of the hypothesized conceptual boundaries of the influence and outcome constructs presented in Table 2 (p. 65) are judged.

In addition to influences and outcomes that were common to both parent and professional forms, the IIOP included a child and family information profile requesting demographic and diagnostic information including (a) child's age, (b) child's sex, (c) type of problem,(d) severity of problem, (e) length of time in intervention, (f) mother's and father's educational level, (g) family income, and (h) current level of satisfaction with each of the outcome elements.

The professional form included similar child demographics and professional experience and discipline. Although not part of this study, this section of the IIOP will allow for possible future analyses with demographic elements used as blocking variables.

Both forms also included a page that asked respondents to rate their satisfaction with each of the outcomes. This section was included as a matter of interest, but was not included in the analyses to follow, because satisfaction with outcome does not comprise an influence/outcome relationship.

Interpretation of IIOP Results

Figure 1 is an example of a graph for the prototype IIOP used in this study that compares parent and professional responses for one child. Parent responses, the mother in this case, are represented by X, and professional responses are represented by 0. The hypothetical child is three years old and has a severe, global, developmental delay. The results are intended to be plotted on the graph by hand by the professional.

Based on test-retest results reported in Chapter Five, it is likely that differences of two or more points on the items are likely to be real differences, rather than differences due to measurement error. In interpreting the IIOP, the professional would, therefore, examine the comparative profile for patterns of differences between parent and professional ratings of two or more points. For this profile, the following interpretations would be drawn:

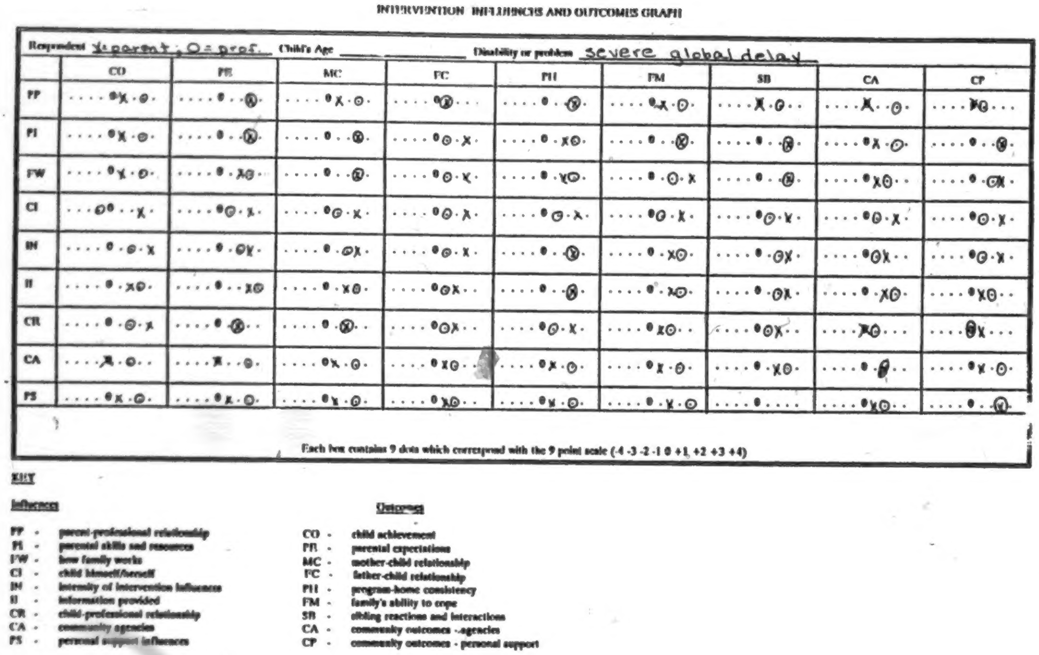


Figure 1. Sample IIOP graph comparing parent and professional responses.

- The parent believes that the Child contributes more positively to outcomes, across the board, than does the professional. The consistency of this pattern is evidence that parent and professional appraisals of the child's skills differ substantially. It seems likely that this kind of difference in perception, if not identified and resolved, could lead to parents and professionals acting at cross purposes.
- The Parent credits Intensity of Intervention as making stronger positive differences in Child Outcomes, and in Mother and Father-Child Relationships than the professional does. The parent also believes that Parent Influences, and How the Family Works have less of a positive effect on Child Outcome than does the professional. This suggests that the parent views herself as less able than the professional to positively effect these outcomes, a view at odds with an intervention model intended to enable families. Exploration of these differences in perception could lead to increased enablement for the parent.
- The professional rates four out of nine influences as having less positive impact on the Father-Child Relationship than the parent rater does. This pattern suggests that the professional's knowledge of the

impact of the intervention system on this outcome may be faulty, since the parent is likely to be in a better position to judge this accurately. The father's involvement with the child is often less visible to the professional than is the mother's.

- The pattern of differences in the Mother-Child Relationship is also interesting. Out of four Influence/Outcome differences of two or more points between the parent and the professional, three are rated higher by the professional. The parent does not feel that her relationship with her child is benefitting as much from the Parent-Professional Relationship, Community Agencies or Personal Support as the professional does. In contrast, the parent feels that the Child influences the quality the Mother-Child Relationship more positively than does the professional. Knowing about these kinds of differences can assist in streamlining services to emphasize influences that are perceived to be most efficacious by the parent, or in improving the effectiveness of the influences where differences of perception exist.

Other patterns of difference are evident in the profile, particularly in the How the Family Works Influence/Outcome cells. For the sake of brevity, however, the analysis just presented should be sufficient to illustrate the potential utility of the IIOP in identifying and addressing differences in perception that could interfere with the efficiency and efficacy of the interaction between EI and Client systems.

There are several options, of course, for dealing with apparent differences in perception. First, it is necessary to identify the differences that parents and professionals feel it is important to address. In addressing those differences, it is important to discuss the basis for each respondent's perception, resulting in a clearer understanding of each respondent's perspective. It is possible that such a discussion would lead the respondents to conclude that the difference was not actually important, or that they had interpreted the question differently. Differences in item interpretation are addressed in Chapters Six, Seven and Eight.

Respondents may "agree to disagree" on some items, and tailor the family's program so that those areas will be addressed by one or the other, but not both. On the items where disagreement is judged to have the potential to interfere with effective EI-Client system interaction, discussion leading to consensus will be necessary. In any case, making differences and similarities explicit can only serve to improve the mesh between the two systems.

CHAPTER IV
METHODS

This chapter addresses research design, followed by discussion of the sample selection, procedures, and data analysis. The closing discussion relates to the limitations of the study.

Overview

There were three phases to the study. The goal of the first phase was to gather enough parent and professional responses on the IIOP to support descriptive analyses of how the items performed and were used. These analyses were aimed at uncovering redundancy between items that might lead to item elimination. They were also aimed at identifying response sets, and ceiling or floor effects. For this phase, parent and professional IIOP forms were sent out to programs that had consented to participate. IIOP forms were then sent to parents through the programs.

The second phase of the study was aimed at exploring the reliability of the items through a test-retest procedure. Readministrations were sent to parents and professionals who consented to participate in Phase Two and who had been involved in EI for more than one year.

The goal of the third phase of the study was to gather data from parents and professionals regarding the utility, feasibility and content of the IIOP. This was done by sending followup questionnaires to parents who consented to participate in Phase Three, and to selected, consenting professionals who constituted an expert panel. Professionals who had more than five years of experience in EI and who represented the range of programs participating in the study constituted the expert panel.

Sample Plan

The sample for Phase One was guided by the goal of broad representation of programs dealing with children with physical, cognitive, sensory, and socio-economic challenges. As stated earlier, only programs that ran the full course of the academic year were approached because it became evident in the developmental process that both the depth of knowledge required to fill out the IIOP, and the intended purpose of enhancing communication, required an extended association between programs and families.

Twenty five EI programs in the greater Edmonton area, Grande Prairie and Calgary (N approximately 510 families, 80 professionals) were invited to participate in the study, first by phone, followed by a mailed out introductory package. Invitations to programs included an introductory letter to EI staff explaining the project and the activities entailed by their participation. Mailouts were followed up by a phone call to answer any questions. The project was personally presented to 20 out of the 25 programs invited to participate. Of the programs that did not receive personal presentations, one was too far away for practical travel, (Grande Prairie), and another had program staff who had participated in the preliminary pilot and so were already familiar with the project. The remaining three programs that did not receive personal presentations reviewed the project materials and declined participation, two due to lack of time, and one because staff judged the parents in their headstart program would not be able to participate due to literacy concerns. The sample for the study consisted of consenting professionals and parents in the 19 EI programs that agreed to participate in the project. Fifteen separate ethics reviews, in addition to University of Alberta Ethics approval, were required in the program recruitment process.

The sample for readministration of the IIOP (Phase Two) and for followup questionnaires (Phase Three) included respondents who volunteered to participate on separate sections of the consent forms for Phases One and Two of the study, and who met the criteria described below.

Procedures

Phase One was the initial administration of the IIOP. Phase Two was the readministration. Followup questionnaires were sent out in Phase Three. For programs that agreed to participate in phase one, IIOP forms and introductory letters were provided and sent, through the program, to the parents. The introductory letter described the project, and requested parents' permission to have professionals, as well as themselves, fill out the IIOP. Programs were provided with reminders for parents to send in program consent forms, and instructions to send the reminders out to parents within one week of sending the original project package. The introductory letter and consent forms for all three phases are in Appendix C.

Professionals were asked to fill out IIOP forms on up to three (depending on their time constraints) randomly selected children from their case load whose parents gave consent for professionals to fill out an IIOP on their child. The selection procedure was specified on the professional consent form. The IIOP forms provided to programs for distribution and use were accompanied by self addressed, stamped envelopes. EI professionals and parents did not see each other's forms, to preserve confidentiality. For Phase Two, readministration forms were mailed directly to parents and professionals who agreed to participate on their Phase One consent forms, and who had at least one year of experience in EI. This last criterion was adopted because parents and professionals in their first year of EI are likely to experience frequent shifts in opinions and beliefs, making it difficult to discern unreliabilty of items due to measurement error from actual shifts in beliefs. Return instructions were the same as those for Phase One.

For Phase Three, followup questionnaires were sent to expert judges (see Expert Judge section below), and parents who agreed to participate on their phase one or two consent forms. Copies of the questionnaires are in Appendix F.

Three rounds of reminders were sent to programs in two to three week intervals from the time initial packages were sent, with a request to send the reminders out to parents. Periodic phone contact was maintained to monitor implementation.

Data Analysis

Because of the experimental and non-random nature of this study, quantitative data analysis was primarily descriptive. Means, ranges, medians, modes, and frequencies were employed to explore patterns in responses. Principal components analyses were used to explore the structure of the IIOP items, and test-retest correlations were calculated for each item to explore item reliability. In addition to gaining insight into the structure of the items, the data analysis was intended to assist in the elimination of items that were unreliable and/or redundant.

Content analysis (Patton, 1990) was used to identify themes in item definitions and open ended questions on followup questionnaires. Content analysis involved the formulation, coding, counting, and description of categories or themes emerging from narrative data.

Expert Judge Panel

A panel of expert judges was selected to provide feedback by questionnaire regarding the accuracy, format, and clinical utility of the IIOP. Breadth of representation across a variety of EI programs (socially disadvantaged, physically disabled, mentally handicapped, sensory disabled) was sought in the selection of the panel. Staff of programs involved in the study were invited to participate as expert judges if they had five or more years of experience.

Limitations

The limitations of the JBA response format and issues of response bias were discussed in the earlier section on validity. In addition to these, this project is subject to all of the limitations of small survey studies, including small sample size, volunteer samples and lack of random sampling in most cases due to the small size of the selection pool for professionals. This project is in good company in suffering these limitations, since they also apply to the vast majority of research efforts in the EI and special education community.

CHAPTER V
ANALYSIS OF QUANTITATIVE DATA

Overview

Results are presented in three separate chapters. Chapter Five deals with quantitative analysis of the survey data itself. Chapter Six presents findings resulting from content analysis of respondents' definitions of influences and outcomes on the IIOP forms and followup questionnaires. Chapter Seven reports the results of the quantitative analysis of the followup questionnaires. This is followed by the content analysis of responses to short answer questions and comments given on the followup questionnaires and the IIOP Comments section from parents and professionals.

The Sample

The purpose of carefully describing the demographics of the sample is to allow readers to judge for themselves whether the results of this study are likely to apply to the population with which they work. EI is an extremely heterogeneous pursuit, both in terms of clients served, and in terms of the kinds of people delivering services. There are no norms for the 'average' EI program. Because of this, the goal in sample selection was broad and reasonably equitable representation across the main service categories of motor, cognitive, sensory, and socio-economic disability or disadvantage, and across the variety of professional and family backgrounds involved in EI-client system interactions.

Child Demographics

IIOP forms were returned for 154 different children, 64 girls and 90 boys. The greater number of boys is typical of disability demographics. Table 3 (p. 66) describes the children who made up the unique cases file in terms of age, time in program, and intensity of intervention, described as hours per week receiving intervention.

The nature of the children's problems was broken down into seven categories as follows: communication disorder (17%), motor disorder (14%), hearing impairment (15%), cognitive delay (16%), multiple (23%), socio-economic (3%), and other (10%). The "other" category was used primarily by Head Start families and professionals, where children did not have a disability, but were participating in the program for enrichment. Nine percent of the children were rated as having a mild problem, 30% as moderate, 39% as severe, and 18% as profound, with the remaining 10% missing data in this category.

Family Demographics

Seventy seven parents out of 538 returned IIOP forms, representing a 14% response rate. While this rate of return is less than hoped for, it is not atypical of the response to cold mail-out surveys (Bourque & Fielder, 1995). Not having had the opportunity to present the project personally to the parents, this rate of return is not surprising. Parents have a tremendous tolerance for filling out forms that are a part of their child's program (Sexton et al., 1991), but forms received from anonymous graduate students are another matter -- especially forms that require at least half an hour of reading in order to understand the project. The explanation and consent process was presented only in writing to families, along with the necessary, up front disclaimer that their child's program would not be affected in any way should they decide not to participate, and that no immediate benefit would accrue to the child or family. These disclaimers are, of course, required for ethical purposes, but they don't inspire most busy parents to take an hour out of their day to do it. Feasibility issues and possible response options will be addressed in Chapters Seven and Eight.

Fortunately, despite the low rate of return, broad representation was achieved in terms of family size, parental education, family income, and even

English as a second language. Siblings of the child attending the EI program were reported in 59% of the families, ranging from 1 to 6 in number. The majority of families reporting siblings had one other child (72%). Most parent respondents were married (73%). Six percent reported being single, 4% in common-law relationships, 9% divorced, with 9% coded as missing in this category. The mean level of education for fathers was 14 years (range = 8-20), for mothers, 13.8. (range = 9-18). Yearly income was reported as follows: 10% earned less than $15,000 per year; 9% between 15,000 and 22,000; 7% between $22,000 and $30,000; 9% between $30,000 and $37,000; 26% between $37,000 and $52,000; 24% greater than $52,000, with 16% coded as missing. Ninety percent of families spoke English at home, 1% French, and 3% reported using other languages, with 4% coded as missing.

Professional Demographics

The professional response rate was 62% (55 out 89 possible). Many of these professionals filled out more than one IIOP form for a total of 131 responses. This strong level of response is likely due to the fact that the project was personally presented to most of the professionals. Because of this, they were likely convinced of the potential value of the IIOP and were willing to invest the 2 to 5 hours required for participation. This investment of time represents the time spent attending the presentation of the project, and participating in one to three of its phases.

Professional backgrounds were also diverse. Twenty percent reported that they held two year diplomas, 53% held Bachelors degrees, 23% held Masters degrees, .8% held Doctorates, .8 % reported other levels of training, and 1% were coded as missing. Thirty four percent of the professionals reported a background in Early Childhood Education, 1% in psychology, 18% in Education, and 44% reported training in other areas including Speech-Language Pathology, Occupational Therapy, Physical Therapy, and Social Work. Three percent of this data category was coded as missing. Professionals' average years of experience in EI was 8.2, (range 1 to 23 years), with ten years' experience being the most frequently reported.

Program Demographics

Nineteen programs were represented in this study. The vast majority of professionals reported that their programs served children with multiple disabilities (76%). The next most frequently cited group was children with hearing impairment (15%). One percent of programs cited communication disorders as their primary emphasis.

These demographics support the claim of reasonably equitable representation across service categories of motor, cognitive, sensory, and socio-economic disability or disadvantage. They also suggest that the goal of representation across a variety of professional and family backgrounds was achieved to a satisfactory degree.

Analyses

Seventy seven parent responses and 131 professional responses were received. Three different files were developed from these responses for the purposes of the analyses. The first was a unique cases file consisting of 154 different children, including all 77 parent respondents, and 77 professional respondents. In some cases, professionals filled out IIOP forms for more than one child in the unique cases file, while parents responded for only one child. The second set of analyses was carried out on a file consisting of first and second administrations of the IIOP on 43 children, (20 parents, 23 professionals). The third set of analyses was carried out on a matched cases file consisting of 44 children who had both parent and professional raters.

Unique Case Analyses

The first purpose of this set of analyses was to explore trends in ratings, including ceiling and floor effects, response sets, and range of ratings. The second was to explore the data for possible redundancies between items.

Results of Descriptives and Frequency Analyses

Range of ratings.

Fifty two out of 90 items were rated on all 9 points of the scale. Another 26 items had ratings on 8 points, eight had ratings on 7 points and three had ratings on 6. Therefore, it appears that no items were restricted in range of ratings. The most frequent range for every item was 0 to 4. An examination of ratings by individual rater revealed that 73% of respondents in the unique cases file used five or more points in their total scale ratings (13% used 9 points; 10% used 8; 10% used 7; 10% used 6). The most frequently used range was 5 points (30%), and, again, this was between 0 and 4. An additional 16% used 4 points. These analyses suggest that use of range is satisfactory.

The commonality in use of 0 to 4 suggests that respondents are hesitant to use the negative portion of the scale. This hesitancy does not imply that the range of the scale should be reduced. The negative areas and the extremes of the scale were used and appear to be important because they provide appropriate scope in those situations where influences are seen as negatively or very strongly related to outcomes.

Means of items.

Recall that items were rated on a 9 point scale, from negative 4 to positive 4, with 0 indicating no influence. Recall that ratings of "can't decide" (5), and "doesn't apply" (6), were coded as missing, and so were excluded from this analysis.

Examination of Table 4 (p. 66) reveals that means for 35/90 of the items were between 2.00 and 2.50, suggesting that ceiling effects did not influence these ratings. Fifteen of the items had means that fell between 2.50 and 2.99, suggesting increased, but not exclusive, use of the high end of the scale. Ranges for all of these items included the negative part of the scale as well. Means for 40/90 items were less than 2.00, suggesting more conservative ratings.

Most of the low means were found in cells dealing with Siblings (SB), Father-Child Relationships (FC), Community Agency influences (CA), and outcomes (CAO), and Personal Support influences (PSUP), and outcomes, (PSO). Examination of Tables 6 (p. 67) and 7 (p. 68) reveal that these were also the cells where respondents used ratings of 5 (can't decide) and 6, (doesn't apply), the most. It is possible that, because respondents were less certain of their judgements of these items, they tended toward conservative ratings. Upon closer examination, another explanation also presented itself.

There was a trend for means to decrease as respondents progressed through the survey. Table 4 (p. 66) presents the item by item means for the unique cases file. In filling out the survey, respondents progressed by rows of the table, beginning with row one. Therefore, responses in the top rows occurred before responses in the bottom rows. The lower right hand corner represents items occurring at the end of the survey. Cells in the columns on the right of the table represent items that occur at the end of each page of the IIOP booklet.

It appears that items with lower means are also items that occur toward the end of the IIOP. The use of "can't decide" (5), and "doesn't apply" (6) ratings relates to item content, but the trend in means suggests that the length of the IIOP may also influence rater behavior.

An investigation of the frequency data suggests that the low means are driven by the use the "no influence" (0) rating, rather than by restricted use of the scale. Use of 0 was broken down by quadrants of Table 4 (p. 66). The upper left quadrant included the first five influences and their associated outcomes up to and including PH. The average use of 0 in this early quadrant was 7.57 per cell. In contrast, the lower right quadrant, (PS, CA, and PSUP Influences; FM, SB, CA, and PSO outcomes), representing items occurring late in the IIOP booklet, showed an average use of zero of 23.5 per cell. When the matrix is divided by outcome categories, with CO - PH representing early items on each IIOP page, and FM - PSO representing late items on each IIOP page, a substantial difference in means is also apparent--11.38 in the early cells, and 20.2 in the late cells. Table 5 (p. 67) summarizes these results.

This evidence may be the reasonable result of some influences being more distally related to outcomes, as depicted by Ryan and Adams' (1995) model of family-school relationships. It appears that many respondents believe there to be no influence/outcome relationship for these pairs.

This evidence may also raise questions about response sets. It is possible that some people simply got tired of considering the items carefully toward the end of the IIOP, and resorted to the use of 0. This brings us to questions about item viability. After all, if many people believe there is no relationship, or the ratings are the result of response sets, then perhaps these Influence/Outcome pairs should be eliminated. However, the analysis of the use of 0 also reveals that at no time did more than 28% of the respondents use this rating, and most of the time the percentage was much less. This does not even approach a majority opinion of "no influence", suggesting that the 0 rating is being used thoughtfully. When the incidence of 0 ratings is paired with the incidence of 6 (doesn't apply) ratings, further light is shed on the issue.

Use of "doesn't apply" (6).

Parents and professionals used 6, (doesn't apply) differently, with parents employing it more often than professionals did. In the unique cases file, (N = 77 parents, 77 professionals) parents used the 6 rating 755 times compared to professionals, who used it 501 times. The parents' greater use of 'doesn't apply' may have implications for adherence to a family-centred model of service delivery.

Parents often enter the EI process with a traditional, medical model in mind. In this model, the professional directs the parents, and services are essentially child-centred, often with minimal consideration given to the family and community environment in which the child exists. Part of the mandate of family-centred service is to increase the family's awareness of the influence of family and community components on child outcome. Parents' greater use of "doesn't apply" may be indicative of persistent medical model perceptions that need to be addressed within a family-centred model. Table 6 (p. 67) provides an item by item comparison of parent and professional use of 6.

Like the "no influence" rating of 0, the "doesn't apply" rating of 6 may have implications for item viability. When the two ratings are combined, four influence/outcome pairs have incidence rates approaching half of the respondents (72 - 80, N = 154). All of these items have a Community Agency influence (CA), or outcome (CAO), component in common. Referring to the notes for Table 6 (p. 67), these items were Community Agency/Sibling Outcomes (CASB), Intensity/ Community Agency Outcomes (INTCAO), Information/Community Agency Outcomes (INFOCAO), and Personal Support/Community Agency Outcomes (PSUPCAO). Furthermore, it can be seen in Table 6 that the greatest use of "doesn't apply" by both parents and professionals occurred in Father-Child Relationships (FC), Sibling Outcomes (SB), and Community Agency Influences (CA), and Outcomes (CAO). It appears that, for many respondents, these components of the IIOP are not related to EI-client system interaction. In families where the father is absent and where there are no siblings, this is, of course, reasonable. The lack of involvement in community agencies other than the EI program challenges the family-centred imperative for EI programs to assist families and children in achieving the greatest amount of integration within their community as possible.

This evidence put strain on the family-centred theoretical imperative to include these items, but eliminating them at this juncture did not seem warranted, for two reasons. The first was that compliance with a family-centred model of service delivery is at the heart of the IIOP. Ratings of 0 or 6 may be indications that respondents were simply not including community agencies in their view of how EI should work. The second reason was that pressure to integrate children with disabilities in non-specialized community placements is becoming progressively stronger. Because of this, it was difficult to justify dropping Community Agency items from the IIOP. Dropping Information/Community Agency and Community Agency/Sibling items seemed particularly inappropriate because, logically, these connections ought to have significant potential for impact on the client system.

Use of "can't decide" (5).

The "can't decide" rating of 5 was also used quite differently by parents and professionals. Professionals used "can't decide" considerably more often than parents did. In the unique cases file, with equal numbers of parent and professional rated IIOPs (N = 154), parents used "can't decide" 156 times and professionals used it 837 times. The greatest occurrence in the use of 5 was in Sibling (SB) and Father-Child Relationship (FC) outcomes, in Community Agency influences (CA), and outcomes (CAO), and in Personal Support influences (PSUP) and outcomes (PS). These were also the items that showed the greatest discrepancies between parent and professional use in the use of "can't decide", (5). This pattern of "can't decide" ratings suggests that many professionals have insufficient information or experience with fathers, siblings, and the families' community experience to rate relationships between influences and outcomes including these components. This has implications for programs subscribing to a family-centred model, given that these components are essential to the delivery of family-centred services. Table 7 (p. 68) provides an item by item comparison of parents' and professionals' use of "can't decide."

It is important to point out that use of "can't decide" and "doesn't apply" in no way implies invalidity. Indeed, it would be cause for concern if these rating options were not available or were not used. 'Can't decide' is necessary because of the complex, multifaceted nature of EI. It's use is also an indicator of how information flows through the system, and how true programs are to a family-centred model of service delivery. 'Doesn't apply' is necessary because of the heterogeneous nature of participants in the EI process, and may also be a barometer for understanding of the family-centred process.

Correlational analyses.

The purpose of the correlational analyses was to explore the data for possible redundancies. The standard for judging redundancy was set at .90 as opposed to a lower value such as .60 because the nature of EI suggest a high degree of overlap between influence/outcome pairs. Because the IIOP is a theory-driven instrument, evidence of redundancy that might lead to elimination of items had to be extremely convincing.

In fact, correlation-based evidence did not convincingly warrant elimination of any items. The 82 x 82 (3362 possible combinations of influence-outcome pairs) correlation matrix yielded only 3.5% of correlations of .60 - .69, 1.4% of correlations .70 - .79; .3% of correlations between .80 - .89 and only two pairs of influences and outcomes (Community Agencies/Mother-Child Relationship and Community Agencies/Father-Child Relationship) greater than or equal to .90.

The vast majority of influence-outcome pairs within these groupings had an influence or an outcome component in common, eg, Parental Skills and Resources - Mother-Child Relationship (PSMC) with How the Family Works - Mother-Child Relationship (FWMC). Most of the higher correlations (.70-.90) were found within influence groups, eg Parental Skills (PS) correlated with each of the possible outcomes. This suggests some level of within-influence cohesion, which would be expected. Levels of within-influence category cohesion, however, are not adequate to infer scalability by influence, with the possible exception of the Community Agency (CA) category, with correlations ranging from .64-.86. Only two other influence categories, How the Family Works (FW), and Personal Community Support (PSUP), had approximately half (17/36 and 20/36 respectively) of their possible intercorrelations at .60 or above. All others had a much wider range of correlation with an average lower limit of .26 ranging to an average upper limit of .87. That correlations amongst items were so varied suggests that the IIOP lacks the psychometric basis for a good measurement scale. The use of the instrument to portray the relationship between influences and outcomes is more supportable.

Two outcome categories did emerge as possibly redundant -- Mother-Child (MC) and Father-Child (FC) Relationship. Correlations between these two ranged from .60 to .93, with seven out of ten possible pairs correlating at .70 or above. Despite this evidence, both the theory of family-centred intervention and the evidence regarding differences in the perceptions of mothers and fathers cited in the literature review requires that both parents be addressed separately on the IIOP. The high intercorrelations could be due to the fact that the vast majority of parents (76/77), rating Father-Child and Mother-Child Relationship were mothers. Direct ratings by fathers would be required in order to justify elimination of one or the other based on psychometric evidence -- and given the theoretical mandate, that evidence would have to be extremely compelling. For the present, it was decided to retain both outcome categories.

One other possibility for redundancy emerged -- the influence categories of Parental Skills and Resources (PS) and How the Family Works (FW). In the correlational analysis, 28% of the possible combinations of influence-outcome pairs correlated .60 or greater.

Principal components analysis.

Because of the possibility of conceptual overlap between Parental Skills and Resources (PS) and How the Family Works, (FW) a principal components analysis with Varimax rotation was carried out to further explore possible redundancy. Item means were substituted for missing data in order to make decomposition of the matrix possible. The analysis resulted in the extraction of 16 roots with eigenvalues greater than one, reflecting 77.9% of the matrix variance. A table of the factors and highest loadings for each item is in Appendix D. The Kaiser-Meyer-Olin (KMO) measure of sampling adequacy was .829, suggesting that the sample was adequate to support the analysis. The reproduced matrix resulted in only 5% residuals with absolute values greater than .05, suggesting that the factor solution was acceptable.

The results of the principal components analysis for Parental Skills and Resources (PS), and How the Family Works (FW), showed that five out of nine influence/outcome relationships for each influence had their highest loadings on the first factor, (designated the "parent\family" factor), suggesting considerable overlap. The exceptions for both How the Family Works and Parent Skills and Resources influence\outcome relationships were Father-Child Relationship (FC), Siblings (SB), Community Agency Outcomes (CAO, and Personal Support Outcomes (PSO).

Excluding Community Agencies, all of these exceptions had their highest loadings on the same factors for both How the Family Works and Parent Skills and Resources influence/outcome relationships. These loadings should be viewed with caution because these are the items most affected by the substitution of item means for missing data.

The amount of overlap suggested by the principal components analysis opened up the possibility that How the Family Works or Parent Skills and Resources could be eliminated. Because reducing the length of the IIOP would be advantageous given evidence of response set towards the end of the survey, this pair of influences was targeted for closer examination in the content analysis of respondents' definitions. The results of the content analysis are reported in the next chapter.

First and Second Administration Analyses

The purpose of this set of analyses was to explore item reliability. Recall from the chapter overview that this file consisted of 43 children who had first and second administrations of the IIOP returned, 20 from parents and 23 from professionals. Readministrations occurred one to three weeks apart. The variance in time elapsed between administrations was due to the vagaries of the postal service and time the respondent took to do the readministration. Recall that readministrations were sent to parents and professionals who volunteered to participate in the second phase of the study, and who had been involved in EI for more than one year.

Results of Correlational Analysis

Correlations were carried out between pre and post administrations. Table 8 (p. 69) provides the item by item correlations for first and second administrations. The range of test-retest item correlations was .30 -.91, with 70% of items having correlations between first and second administrations of .60 or greater. In a further breakdown, 54% of the items had correlations of .65 or greater, and 40% of items had correlations of .70 or greater. The lower test-retest correlations (less than .60) occurred most often in the relationship of Information (INFO) to outcomes (6/9), and of the Child-Professional (CPR) and Parent-Professional Relationship (PP) to outcomes (4/9 each).

Crocker and Algina (1986) relate that "few, if any, standards exist for judging the minimum acceptable value for test-retest reliability" (p. 133). Coefficients for subscales of the Wechsler Adult Intelligence Test (WAIS) range from .70 to the low .90s. The Strong Vocational Interest Blank, (1996 version) shows short-term coefficients in the low .80s and long term re-test coefficients in the low .60s. Test-retest reliabilities for personality tests and attitude surveys are often lower than those for aptitude tests, but Crocker and Algina suggest that well constructed instruments measuring clearly defined traits still may have test-retest coefficients in the .80s.

Given the broad nature of the IIOP, (and especially that its use will not be for high consequences like selection), and the possible range of interpretations for the items, it appears that the item test-retest correlations are commensurate with the level of accuracy necessary for item level portrayal. Items with lower correlations (.60 or less) were specifically targeted for content analysis of definitions, to be discussed in the next chapter.

Levels of Agreement

Taking an arbitrary cut off point of 70%, two groups of problem items become discernable. The first occurs in the Child Influence and Information Influence categories. For Child Influences (CI), agreements of less than 70% occur in Family (69%), Community Agency (65%), and Personal Support (56%) outcomes. For Intensity Influences, the problems are Sibling (48%), Community Agency (67%), and

Personal Support Outcomes (52%). There are five other influence/outcome pairs with agreement of less than 70% scattered throughout the matrix (PPFM, CPRCO, CASB, FWPSO, and CPRPSO). The only other pattern evident is the occurrence of five agreements of less than 70% in the Personal Support (PSO) outcome column, two of which are accounted for in the first pattern described.

An explanation of these patterns is elusive. We know that the Sibling (SB), Community Agency (CA and CAO) and Personal Support (PSUP and PSO) categories make more use of "no influence," "can't decide," and "doesn't apply" ratings than do the other items in the matrix. A crosstabs analysis of test-retest agreement was carried out for "can't decide" and "doesn't apply." The full results of the analysis of proportion of test-retest agreement for "can't decide" and "doesn't apply" are in Appendix H. The results suggest that these two ratings may have less stability than the ratings of strength of relationship, although "doesn't apply" is clearly more stable than "can't decide". This conclusion is supported by the fact that 39% of "doesn't apply" proportions of agreement, computed by dividing the actual number of agreements by the number of possible agreements, are .60 or above, compared to .12 for "can't decide."

The "can't decide" and "doesn't apply" analysis suggests that the lower agreement +/- 1 for items where these ratings were used heavily may be a symptom of vagueness either in interpretation of the item, or in deciding about the strength of relationship between influence and outcome. The interpretive issue is addressed at length in Chapter Six, but the content analysis makes use of comparisons between parents and professionals as opposed to comparisons from one administration to the next. Because of this, it is difficult to apply those findings to test-retest reliability problems. However, the content analysis provided a clue into the Information influence\outcome items, in that the interpretation of the Information influence was extremely consistent between and among parents and professionals. This suggests that the source of low agreement from time one to time two is more likely to be found in the outcome than it is to be found in the influence.

Despite the fact that 13 out of the 90 items have test-retest agreement levels that are less than desirable, the remaining 77 items appear to be satisfactory. Given the fact that the ratings that generated these data are based on a tool used prior to content analysis that will likely result in tighter definitions for items, these agreement rates support provisional credibility.

As a check on the test-retest agreement levels generated by the crosstabs analysis, the standard error of measurement was computed for each item. The full table of results is in Appendix E. The computations yielded a range of .66 - 1.30 for the 90 items on the IIOP. Twelve percent of the items had standard errors equal to or greater than one. In a further breakdown, 16% of the items had standard errors between .95 -.99., with 72% equal to or less than .94. Despite the fact that the data are heavily skewed to the positive end of the scale, these results suggest that differences of two points between raters on the IIOP are likely to be real differences, rather than differences due to measurement error.

The purpose of the IIOP is to identify differences in parent and professional perceptions of process. The set of analyses just discussed indicate that, even in its experimental form, the IIOP has adequate reliability to accomplish this purpose for the vast majority of items.

Matched Case Analyses

The purpose of the matched case analyses was to explore similarities and differences between parent and professional raters. This exploration is important because the IIOP is intended as a tool to compare parent and professional perceptions. It is therefore important to gain as thorough an understanding as possible of the sources of variance in their ratings.

The matched case file consisted of 49 children who had IIOP forms returned from both parents and professionals. The hypothesis underlying the IIOP is that there will be differences in parent and professional perceptions about the relationship of influences to outcomes in EI. These analyses provide some support for this hypothesis.

Recalling from the standard error of measurement analyses just reported that a difference of two points is likely to be a true difference, the number of differences of two or more points between parent and professional ratings on items was tallied. The results are reported in Table 10 (p. 71).

Differences Between Parents and Professionals

The tally reported in Table 10 did not include data coded as missing (5, 6, and no response). Although paired t-tests revealed only 7 cells with significant differences ($p < .05$), and 4 others that approached significance ($p = .06 - .08$), it can be seen, from examination of Table 10, that there were differences of more than two points between parents and professionals in every influence/outcome pair.

The Family outcome (FM), and Mother-Child outcome (MC) show the most frequent differences. The nature of those differences is elusive. For most cells with more than 15 differences of two or more points, the number of times that parents rated items two or more points higher than professionals was roughly equal to the number of times they rated items two or more points lower.

The question that remained as a result of these analyses was whether these differences are the result of differences in interpretation of the items, or of differences of opinion about strength of influence on outcome. The answer to that question awaited the content analysis, to be discussed in Chapter Six.

Use of "Can't Decide"(5) and "Doesn't Apply"(6)

Parent and professional use of 5 and 6 in the matched cases file mirrored the results of the analysis on the unique cases file, signalling a robust trend. In the matched cases file, parents used "can't decide" 71 times and professionals used it 599 times. Parents used "doesn't apply" 555 times and professionals used it 326 times. The pattern of discrepancies was similar to those in the unique cases file, but often more moderate in terms of differences in number of 5 and 6 ratings per cell. This is to be expected since parents and professionals were rating the same children, but the use of 5 was comparable for both files in terms of proportion of parent and professional use for the Father-Child outcome and the Personal Support category. The unique cases file and the matched file were also comparable in that the greatest use of 5 and 6 occurred in the Father-Child, Sibling, Community Agency and Personal Support categories.

Crosstabs analysis revealed that agreements between parents and professionals on the use of "can't decide" (5) in these cells were extremely rare. Agreement on use of "doesn't apply" (6) in these cells was more common, usually greater than the expected amount (range .4 - 6 greater). Again, the most pronounced use of "can't decide" by professionals occurred in the Personal Support influence and outcome categories, the implications of which were discussed previously.

Summary

Taken together, these analyses lend support to the claim of provisional credibility for the IIOP. The range of use of the rating scale is generally satisfactory. There is little evidence of item redundancy. Reliability is generally adequate to identify differences between parents and professionals with the current ratings scheme. Differences do exist between parent and professionals on the individual child/family level, although few are statistically significant when aggregated. The content analysis to follow sheds some light on the nature of these differences, and on apparent redundancy between items.

CHAPTER VI
RESULTS OF CONTENT ANALYSIS OF INFLUENCES AND OUTCOMES

Overview

This chapter begins with a set of analyses that explore the conceptual boundaries and the stability of respondents' interpretations of the items on the IIOP. The purpose of these analyses is to explore differences in parents' and professionals' interpretations of the influences and outcomes as possible sources of variance in their ratings. The results of these analyses were used to guide the revision of the IIOP that is described in the final chapter. First, conceptual boundaries are defined through extraction of meaning units, or propositions, for each influence and outcome. Interpretive stability is then discussed, based on the generation of a limited number of conceptual features for each influence and outcome based on the propositional analysis, and results of a reliability check on the features is reported. Following these analyses, differences in the use of features between parents and professionals are explored. These differences are then examined in relation to issues of redundancy, unreliability, and differences in parent and professional ratings on items that arose in Chapter Five. Finally, construct validity is revisited with a comparison of influence and outcome features generated by the content analysis and the originally hypothesized conceptual boundaries put forward in Chapter Three.

Content Analysis of Influences

Influence definitions were gathered during the first administration of the IIOP. Respondents were provided a space on the form to write a definition of each influence. For this analysis, influence definitions were taken from the parent-professional matched data file, (44 parents, 22 different professionals). The matched data file was used for this analysis for two reasons:

1. Demographic analysis shows that it represents 17 out of 19 participating programs, with child, parent and professional demographics similar to the unique cases file.
2. Use of this file allows for analysis of differences and similarities between parents and professionals filling out definitions for the same children.

Content Analysis of Outcomes

Outcome definitions were taken from the followup questionnaires (9 professionals, 21 parents). Parents and professionals were not asked to define outcomes when they filled out the IIOP because it would be too time consuming to ask raters to define both influences and outcomes while also rating items. Recall from the Methods section that followup questionnaires were sent out to all parents who consented to participate in this third phase of the study, and to professionals with more than five years of experience who had indicated their willingness to participate as expert judges. Professionals were selected based on consent, years of experience, and the type of program they represented, with the goal of achieving a distribution of programs similar to the distribution in the unique cases file. The demographics of the expert judge panel are described in more detail in Chapter Seven.

Proposition/Meaning Unit Analysis

The influence and outcome definition data were sorted into two equal halves. Each definition in the first half of the data was divided into single meaning units, or propositions, and sorted as to parent or professional sources. In this way, a list of unique propositions for each influence and outcome was generated. The following guidelines directed selection of propositions:

1. Propositions were listed separately if they added any unique element to the list (eg."achievement level in light of handicap" was listed separately from "progress in areas needing intervention").
2. If a proposition conceptually matched more than one proposition already extracted, it was added to the tally for counting purposes to each proposition that it fit (eg "achieving mutually agreed upon goals" matched both "goal attainment on Individual Education Plan" and "achievement of objectives").
3. If a proposition was not a definition or a description, it was not included in the analysis (eg. "She will lead a normal life" in response to "What does intensity of intervention mean to you?")
4. If a proposition simply restated the item description on the IIOP, it was not included in the analysis. (eg. "my child's skills and resources" in response to "What does *my child's skills and resources* mean to you?").

The results of the analysis on the first half of the data were then used to generate features for the definitions of each influence and outcome. These are described in Tables 11 (p. 72) and 12 (p. 73). Mother-Child and Father-Child Relationship were defined exactly the same way for almost every respondent, with only five additions for fathers (playing mostly, bonding time, interactions outside of traditional head of household role, desire and ability to engage the child, participation in the program). Because of this, they were collapsed into one outcome for the content analysis, and were accounted for by the same features.

Feature Level Analysis

As shown in Tables 11 and 12, each influence and outcome generated two or three broad features. Unique propositions generated in the second half of the data were then analyzed to see if those definitions fit the features identified in the first half.

Evidence from this analysis suggested that the features identified in the first half of the data accounted for all of the unique propositions in the second half of the data. The next step in the analysis was a check on the reliability of the researchers' judgements. Each unique proposition for the full data set of influences and outcomes was written on a file card. An independent rater sorted the unique propositions from each influence and outcome feature into the identified features. Rates of agreement ranged from 78% to 86% for the influences and from 79% to 93% for the outcomes. All but three features had agreement at 80% or greater. These levels of agreement suggest that the features were reasonably effective in accounting for the unique propositions generated. Tables 13 (p. 74) and 14 (p. 75) describe the full results of the sort.

The fact that all of the propositions could be reliably organized into a limited number of features suggested a certain amount of stability in parent and professional interpretations of the items. Despite this evidence of stability, analysis of the proportion of parents and professionals using each feature reveal a number of differences. These differences have implications for pinpointing sources of redundancy for items identified in the previous chapter. They also shed light on differences between parent and professional ratings that might have more to do with different interpretations of the items than with differences in opinion about strength of influence on outcome.

Differences in influence features are reported in Tables 15 through 22 (pp 76-79). Differences between parents and professionals in outcome features are reported in Tables 23 - 29 (pp 79-82). Parent and professional proportions of use are reported, with each influence and outcome dealt with in individual tables. The bold rows in these tables report how many parents and professionals used each possible number of features. These are followed by regular print rows where the combinations occurring within that number feature are reported. The columns following the number of respondents using each feature convert the numbers of parents and professionals to proportions, and reports differences in those proportions based on subtracting the professional proportion from the parent proportion.

Differences in Parent and Professional Use of Influence Features

For the Parent-Professional Relationship influence (Table 15, p. 76), professionals tended to give more complex definitions (i.e., they more often used two of the definition features) than parents. In those situations where only one category was used, "communication/teamwork" was more common than "emotional" for both parents and professionals. This suggests that ratings of strength of influence on outcome are not likely to be unduly affected by differences in interpretation of this influence. Approximately one third of the parents and more than half of the professionals used both features to define this influence, suggesting that both components should be retained in item definition.

For Parent Skills and Resources (Table 17, p. 76), most parents and professionals made use of two categories. However, parents were more likely than professionals to omit "personal attributes" from their definitions. The main feature in the definition for both groups appeared to be "knowledge and abilities." For respondents using one, two, or three features to define this influence, the "resources" feature was used in 53% of parent definitions and 45% of professional definitions, and so should be retained."Personal attributes" was used infrequently enough to be considered for elimination from the definition.

For How the Family Works (FW), (Table 18, p. 77), the majority of parents and professionals used only one feature in their definition ("general interaction"), although more professionals than parents incorporated "special accommodations" in their definition of this influence. However, the difference in feature use is minimal, suggesting acceptable stability in interpretation. Although the majority of respondents used the "general interactions" feature to define this influence, both features are conceptually important to the definition, and were flagged for clarification in the revision of the IIOP.

Table 19 (p. 77) provides a breakdown of the differences between parents' and professionals' use of the conceptual features associated with Child Skills and Resources. The differences between parents and professionals in use of one, two, or three features are minimal, suggesting similar levels of complexity in their interpretation of this influence. For both groups, the core of the definition is "knowledge and abilities." For respondents who used more than one feature to define this influence, professionals were more inclined to add "resources", whereas parents tended to include "personal attributes".

Parents' greater use of the "personal attributes" feature is consistent with the fact that their day to day interactions with their children would make them more conscious of the child's personality than would professionals' more limited contact. From a family systems perspective, professionals might be more inclined to consider the social and physical environment ("resources") as mediating the child influences. This influence was flagged for rewording/redefining in the revisions for the IIOP reported in Chapter Seven.

The Intensity (INT) influence was encompassed by one feature, as described in Table 11 (p. 72). All appropriate definitions fell into this feature. Some examples of inappropriate definitions include: "How much quality time you spend with your child"; or "It has provided some needed structure to N's life." This item was flagged for clarification that both features were part of the definition on the revision of the IIOP.

Table 20 (p. 77) describes parent and professional use of the features for the Information (INFO) influence. The vast majority of parents and professionals used both features in their definitions, suggesting that differences in parents' and professionals' interpretation of this influence had minimal influence on ratings.

Some examples of responses coded as inappropriate for this influence include: "It helps us to understand why things or situations are happening..."; "Ways we can best help our son reach his maximum potential"; or "Helps me to understand and implement strategies." It appears that this influence can be retained in its current form.

Table 21 (p. 78) reports the results of the content analysis for the Child-Professional Relationship (CPR) influence. For CPR, both parents and professionals tended to use either one or two categories, with professionals being more inclined to use two. The core feature of the definition was "emotional connections." To the core feature, parents and professionals who used more than one feature to define this influence most often added "professional attributes". "Child attributes" was a feature used more often by parents than by professionals. In general, there was a tendency for professionals to make greater use than parents of the "professional attribute" feature of the definition. This predictable taking of the "professional perspective" by professionals appears to be a fairly common characteristic of many definitions.

Although "emotional connections"' is clearly the dominant feature, both "child" and "professional" attributes were used, and are conceptually important features of the definition. This influence was flagged for rewording/ redefining in the revision of the IIOP reported in Chapter Eight.

More parents used both features to define the Community Agency influence (Table 22, p. 79), than did professionals, accounting for the .14 difference between one and two feature use. The split between "quality" and "availability" was about the same for both groups, suggesting reasonable stability in interpretation. The proportion of parents using both features suggests that both should be retained in the item definition.

In contrast to the Community Agency (CA) influence, substantial differences between parents and professionals are apparent in the Personal Support (PSUP) influence (Table 23, p. 79). The use of one and two features is evenly divided among the parent respondents, but more than 2/3 of the professionals used both features to define this influence, suggesting that their view of Personal Support was more inclusive than parents. Parents tended to focus on "social-emotional" aspects of this influence. This is consistent with findings from other influences in which parents tend to use "emotional" components in their definitions more than professionals. No professionals, and only three out of 21 parents who used one feature, used "physical action." However, the "physical action" feature is clearly important, as seen in the numbers of both parent and professional respondents who used both features to define this influence. This influence was flagged for rewording/redefinition in the revisions of the IIOP.

Summary of Influence Content Analysis

Some trends were evident in parents' and professionals' definitions of influences. Professionals tended to use more features than parents did, suggesting either a more inclusive or a more complex interpretation. For influences that include an emotion related feature, there is a trend for parents to use that feature more than professionals. This seems reasonable given the nature of parents' intense, personal involvement with their child, and with the EI process.

Most of the proportional differences in feature use are less than .20, which appears to be a reasonable point at which concern for differences should be triggered. Setting the criterion for concern about interpretive differences at greater than .20 implies that, at this level, .80 of parents and professionals define the items using the same features. This, given the broad and complex nature of the IIOP, may be taken as a reasonable level of interpretive consensus. Although interpretive differences between parents and professionals in their definitions of influences are generally not large, the content analysis provides a blueprint for restructuring, or segmenting, the influences into their separate features in the revision of the IIOP. This process, grounded in the actual definitions of respondents, should minimize the effect of differences of interpretation. Revisions are discussed in Chapter Eight.

Differences in Parent and Professional Use of Outcome Features

In the Child Outcome (CO), (Table 24, p. 80), it is clear that the core feature is outcomes "related to goals and norms" for both parents and professionals,. The trend for professionals to use more categories than parents in their definitions is continued in this outcome. Very few respondents related Child Outcomes to "'personal attributes." This opens the possibility of eliminating this feature from the definition in the revised IIOP.

Differences within the Parent Expectations (PE), (Table 25, p. 80), outcome are minimal, both in terms of number of features used to define it and in terms of how the features were used. The core feature for both parents and professionals is "goals based on abilities."

The second feature, "quality of expectations" used in similar proportions by parents and professionals, may be inappropriate for parents since it is unlikely that parents are able to evaluate the appropriateness of their expectations. This will be considered further in Chapter Eight, with the revisions of the IIOP.

The Mother-Child (MC), and Father-Child (FC), Relationship outcome (Table 26, p.81) shows an interesting split. Both features are used, separately and together. They form the core of this outcome together. This outcome also shows the largest difference in feature use of all the influences and outcomes, with parents continuing the trend, identified in the influences, of using the "emotional" feature in their definition more often than professionals..Proportions of respondents using both features do not differ greatly, and represent roughly half of both parents and professionals, suggesting that both features are important for the definition. The disparity between parent and professional use suggests the need to segment the features in the revision of the IIOP.

Differences among proportions of parent and professional use of features for the Program-Home Compatibility (PH) outcome, (Table 27. p. 81) are minimal. It appears that parents and professionals have similar views regarding the definition for this outcome. Although "compatible, complementary" is clearly the core feature, "consistent, similar" is added often enough to warrant its continued inclusion in the definition on the revised IIOP.

Differences in the Family outcome (FM), (Table 28, p. 81), are substantial, and unsurprising given the differences between parent and professional ratings of this outcome reported in Chapter Five. Here, "actions, resources" emerge as dominant for parents who used one feature to define it, whereas 'ability, personal attributes' was dominant for professionals. Both features are clearly important, and will be considered for segmentation in the revision of the IIOP.

The Sibling (SB) outcome, (Table 29, p. 82), shows an interesting shift, in that more parents than professionals used two features in their definitions. This runs counter to the trend, described in previous influences and outcomes, for professionals to use more complexity in their definitions than parents. There is little difference between parents and professionals who defined this outcome with one feature, though professionals were a bit more inclined to use "actions and practices." Clearly, both features must be retained on the revised IIOP.

The primary difference in the Community Agency (CAO) outcome, (Table 30, p. 82), is between parents' and professionals' use of one or two features in their definition. Here, we see a return to the trend for professionals to use more features than parents in their definitions. There is minimal difference in how the features are used by those who defined it with one feature. The "availability/action/benefit" feature is clearly dominant for both parents and professionals, opening up the possibility of elimination of the social/emotional feature in the definition of this outcome on the revision of the IIOP. This is considered further in Chapter Eight.

In the Personal Support (PSO) outcome (Table 31, p. 82), both features are clearly important to both parents' and professionals' definitions. There appears to be a substantial proportional difference between parents and professionals who used one feature to define the outcome, with parents once again using the "social/emotional feature" more than professionals. However, when proportions for the separate features are added to proportions for use of both of features, the difference in use of the "social/emotional" category is considerably smaller. Both features are clearly important to the definition.

Summary of Content Analysis of Outcomes

Differences between proportions of parent and professional use of features were slightly larger in the outcome definitions than those seen in the influences. The trend for parents to use emotional features more than professionals was present, but not consistent. The same was true for the trend for professionals to use more features than parents in their definitions.

Items that differed by more than .20 in terms of parents' and professionals' use of a single feature to define them were Mother-Child/Father Child Relationship, Family Outcomes, and Personal Support. These items are considered for segmentation in the revision of the IIOP.

Outcomes that differed by more than .20 in terms of whether parents and professionals used one or two features to define them were Child Outcome, Sibling Outcomes, and Community Agency Outcomes. These are considered for rewording of definitions in the revisions of the IIOP.

Possible Sources of Redundancy

One pair of influences and one pair of outcomes were flagged in Chapter Five for particular consideration regarding redundancy as a result of the correlational analyses. The pair of influences was Parent Skills and Resources (PS) and How the Family Works (FW). The outcomes were Mother-Child (MC) and Father-Child Relationship (FC). The content analyses shed some light on these pairs.

Considering the influences first, it is apparent from examination of Table 11 (p. 72) that the conceptual features generated by the analysis of Parent Skills and Resources (PS) and by How the Family Works (FW) were distinctly different (PS = knowledge and ability, personal attributes and resources; FW = general interactions and special accommodations). This fact militates against elimination of one of these influences on the basis of the content analysis.

The evidence regarding the Mother-Child/Father-Child Relationship outcome pair was of a somewhat different nature. Although definitions were so similar that these two outcomes were collapsed into one feature for the content analysis, it should be kept in mind that the definitions were written almost exclusively by mothers, and that the items were described in the same terms (mutual enjoyment and ease of communication) on the IIOP form. This makes it quite unsurprising that the content analysis meshes with the correlational evidence in Chapter Five suggesting redundancy.

There were two possible consequences of these findings. The first was that, because fathers report different sources of stress than mothers, (Marjoribanks, 1995; Shonkoff, et al., 1992), it might be advisable to reword the items to reflect those differences. The second, already suggested in Chapter Five, was that direct ratings from fathers are needed to compare to mothers' ratings in order to see if fathers would rate differently. Until this evidence is available, it does not seem theoretically reasonable to eliminate one or the other. Another contraindication for elimination is the fact that, in the Chapter Five discussion of use of "can't decide", the Father-Child outcome identified a gap in professionals' knowledge regarding this important component of family-centred intervention. In this, it may serve an important function.

Differences of Two or More Points Between Parents and Professionals

The features showing the most frequent third quartile level differences (> or = 15) of two or more rating points on Table 5 (p. 67) were the outcomes of Mother-Child Relationship (4/10), Program-Home (4/10), and Family (7/10). The Mother/Father Child (MC/FC) content analysis showed that parents and professionals differed by .42 in their use of features, with parents using the emotional feature more than professionals, and the communication feature less than professionals. Family Outcome (FM), content analysis yielded a difference of .31 between parent and professional use of the features, with parents using "action/resources" more and "ability/personal characteristics" less than professionals. These findings led to the suspicion that interpretation of the outcome definition may have contributed to differences in ratings too often for comfort.

The Program-Home Compatibility (PH) outcome showed a difference in use of features of only .10, with parents using "consistency" more and "compatibility" less than professionals. This suggests that differences of two or more points in ratings are less likely to be due to differences in item interpretation than in the previous two.

For the first two items, the choice between item elimination and item clarification arose again, and led to the same conclusions. It is certainly necessary to reduce the influence of differences in item interpretation on ratings of the strength of influence on outcome. Incorporating the features into the item descriptions should reduce the risk posed by differing item interpretations.

Only one question is of immediate concern as a result of these analyses. That is, whether differences in parent and professional interpretations at the group level are sufficient to render their judgements of relationship of influence to outcome incomparable. In the case of influences and outcomes where proportions differ by .20 or greater, this is a distinct possibility. The revision of the IIOP reported in Chapter Eight takes these interpretation problems into account.

Construct Validity Revisited

During the development of the IIOP, conceptual boundaries were hypothesized for the influence and outcome constructs, and were discussed in Chapter Three. Some of these boundaries were incorporated into item descriptions for the purpose of reducing the interpretive variance in the items (see sample IIOP forms, Appendix A). In order to check on the validity of the original item conceptualizations, the hypothesized conceptual boundaries were compared with the features generated from the content analysis of influence and outcome definitions. Analysis was carried out in the same manner as the content analysis described previously, where propositions from the original hypothesized conceptual boundaries were judged as to whether or not they matched the features generated in the content analysis. An independent rater then judged the match as a reliability check.

The independent rater was provided with the summary of the influence and outcome features in Tables 11 (p. 72) and 12 (p. 73), and instructed to judge whether the features generated by the content analysis could reasonably be accounted for by the original hypothesized conceptual boundaries. Eighty five percent agreement was achieved for the influences and 88% agreement was achieved for the outcomes. Where disagreements occurred, the first rating was given preference because they were done by the person closest to the data, and because they were, overall, more conservative than the second ratings. Tables 20 and 21 (p. 78) summarize the results.

Overall, the results were encouraging. Based on the first set of ratings, the original hypothesized boundaries for influences incorporate 17 out of 20 of the features defined by parents and professionals. The omissions were interesting. The original boundaries did not include a "communication/learning" feature for Parent-Professional Relationship, a "resources" component for Child Influences, or a "child attributes" component for child-professional relationship. Furthermore, it was interesting to note one error of commission. Although the originally hypothesized propositions of "child age" and "severity of handicap" fit conceptually into the Child Influence feature of "personal attributes", they were never specifically mentioned by parents or professionals.

The hypothesized boundaries for outcomes incorporate 15 out of 16 features identified by the content analysis. Missing was a "personal attributes" feature for Child Outcome. Conversely, all of the originally hypothesized conceptual boundaries could be accounted for by the features generated by the content analysis. Differences of both commission and omission will be taken into consideration in the revision of the IIOP.

The high level of similarity evident between the originally hypothesized conceptual boundaries and the features generated by the content analysis are evidence that the IIOP was on the right track conceptually. It appears that even the experimental form used in this study has much more right about it than wrong from a construct validity standpoint.

Summary

The evidence from the content analyses complements the quantitative evidence from Chapter Five quite well, with the same items generally being identified as sources of redundancy and invalidity. The content analyses clarified the nature of differences between parents and professionals, making the basis for decisions about elimination, rewording, and restructuring more sound. It still did not appear that it was advisable to eliminate any items at this time. Rewording and restructuring was another matter. The analysis of items from the followup questionnaires, presented in Chapter Seven, provides the final round of evidence regarding the necessity of item elimination, restructuring, and rewording.

CHAPTER VII

ANALYSIS AND DISCUSSION OF FOLLOWUP QUESTIONNAIRE

Overview

This chapter describes the quantitative and qualitative analyses of the followup questionnaires, reports the results and discusses their implications. This third phase of the study addresses the clinical utility of the IIOP, and recommendations for adaptations from parents and professionals. The quantitative analyses and results are reported first, followed by the content analysis of parent and professional short answers.

Quantitative Analyses

The Professionals

The professional expert panel consisted of 10 Early Intervention professionals chosen for their experience, (more than five years), and the variety of programs in which they worked. The goal was to roughly match the distribution of programs represented in the unique cases file. The respondents were selected from those who indicated interest on their Phase One forms.

Seven of the professionals represented programs working with children with multiple problems. Recall that the majority of programs represented in the unique cases file were reported to be working with children with multiple kinds of problems. Of these expert panel participants, one professional worked in a program where the professional's role was to write the child's program goals, coordinate, and consult, but not to deliver services directly. One other professional in this group worked in a Head Start program. The unique cases file included two of each of these kinds of programs.

The three other professionals worked in programs for children with hearing impairments. While 3/10 is approximately twice the proportion of representation in the unique cases file (15%), these programs share the primary focus on communication reported by another one percent of unique case programs.

Table 34 (p. 85) describes the results of the quantitative portion in terms of the item means and the number of professionals using each rating. Each question was rated on a scale of one to five, with one being the negative extreme and 5 being the positive extreme. To spare the reader the necessity of referring to the appendix where the questions are located, they were as follows:

1. How important do you think it is for parents and professionals to agree about how Early Intervention works for the child or family? (not at all - crucial).
2. How well do you believe the items on the IIOP represent the interaction of client and EI systems? (very poorly - very well).
3. How helpful do you think the IIOP would be in improving communication with the families in your program? (not at all - very).
4. How likely would you be to use the IIOP in your planning process? (not at all - very).
5. How helpful do you think the IIOP would be in identifying specific program evaluation targets for your program? (not at all - very).

The ratings for the first question were a strong endorsement for the importance of parent and professional congruence regarding the EI process. This is the foundation of the IIOP, and is consistent with the philosophy of family-centred EI. Responses to the second question, concerning how well the IIOP represents EI-client system interaction, and question three, about usefulness in the parent-professional communication process, are also favorable endorsements for provisional credibility. The IIOP is primarily intended as a tool to enhance communication and understanding between parents and professionals. Its moderately strong endorsement by professionals lends credence to the claim of utility for this purpose.

The panel was divided about how likely they would be to use the IIOP in the planning process. The second lowest rating, (2), was used by the representative of the Head Start program and by the representative of the consultation-based program. It is possible that the IIOP is not ideal for these kinds of programs, particularly as an aid to planning. In the first case, many parents involved in Headstart programs lack the literacy level necessary to be able to fill out the IIOP. For many families in these programs, an interview format for the IIOP may be more suitable. In the consultant-based programs, the consultants are often more involved with the child's community program and the child's key worker than they are with the family, making questions about family dynamics difficult or impossible to answer.

The lowest rating (1), regarding likelihood to use in planning, came from a clinician working in a multi- disciplinary program, as did one other rating of 2. All of the professional respondents who rated this item 1 or 2 rated item 3, (utility in improving communication), and item 5, (utility in identifying program evaluation targets) as 3. It is possible that the use of the word "likely" in the wording of the question failed to get at the issue of utility. Many busy professionals might think something would be useful, if they were inclined to change their already existing routines -- but many are not so inclined if they are satisfied with their current process.

While ratings below 3 by practitioners working in year long, direct contact programs are not positive regarding the prospect of utility for the IIOP in program planning, the fact that the majority of respondents rated this question 3 to 5 leaves room for moderate confidence in the possibility of utility in this area. The final question, regarding utility of the IIOP in the program evaluation process, demonstrates moderately strong support for a claim of credibility in this area as well.

The Parents

Twenty four parents participated in the followup questionnaire phase of the study. This represents almost one third of the 77 parents who responded in Phase One of the project. Followup questionnaires were sent to parents who indicated willingness to participate on the Phase One consent form. The questions on the first part of the parent questionnaires were as follows:

1. How important do you think it is for parents and professionals to agree about how Early Intervention works for your child? (not at all - crucial).
2. How well do you think the IIOP describes how programs and families interact? (very poorly - very well).
3. How likely would you be to fill out the IIOP if your program was using it? (not at all - very).
4. How easy was it to understand the instructions for filling out the IIOP? (very difficult - very easy).
5. How comfortable are you with the idea of using the IIOP to compare your beliefs about Early Intervention with professionals' beliefs? (very uncomfortable - very comfortable).

Once again, the ratings for question one, (Table 35, p. 85), provide a strong endorsement of the basic premise of the IIOP. The fact that this endorsement is equally strong from both parents and professionals leaves little doubt as to the importance of the idea. Parents are also in close agreement about how well the IIOP represents EI-client system interaction, with a moderately strong endorsement. Given the complexity of the task of portraying EI-client system interaction, and the experimental form of the tool, this is strong evidence in favor of provisional credibility.

Parents' majority use of 4 and 5 in rating their likelihood to fill the IIOP out if their program was using it (question three) is in accordance with research that documents parental tolerance for such activities (Sexton et al., 1991). The ratings regarding ease of understanding (question four) were also promising. The promise is moderated considerably by the fact that the overall response rate to Phase One was disappointing despite the variety represented, and by the fact that it is highly likely that only the most literate parents volunteered and carried through with their intent to participate in Phase Three. The strong rating of question five shows a similar promise --with the same caveat. Parents' willingness to compare their beliefs with professionals is crucial to the function of the IIOP.

Overall, the ratings of parents and professionals provide moderate to strong support for the claims of credibility and utility. The content analysis of the short answer questions puts a more definite shape to the nature of both the support, and the reservations of the respondents.

Content Analysis of Short Answer Questions

The professional short-answer questions were:

6. What changes would you make to the items on the IIOP?
7. What changes would you make to the format?
8. Any other comments?

The parent short-answer questions were:

6. Would you add anything to the IIOP?
7. Would you take anything out of the IIOP?
8. What changes would you make to the way the IIOP looks?
9. Any other comments?

Unique propositions were extracted from parent and professional responses to the short answer questions. Response features were then generated, based on these data. Features were generated based on conceptual similarities among the data. There was considerable overlap in the content of parent and professional responses, and the questions themselves were, in some cases, not the best way to organize it. Parents suggested additions, deletions, and format changes in all four short answer questions. Professionals made suggestions in these same features in all three short answer questions.

Responses within features were coded as parent or professional propositions so that within-feature differences between them could be explored. Since the IIOP is intended for use with both parents and professionals, an understanding of both perspectives seemed important to the discussion of validity and utility. All responses were included in the analysis. Essentially identical propositions were combined to produce 37 unique professional and 48 unique parent propositions based on the followup questionnaire data. Propositions were considered unique if any component of the proposition was conceptually different from previously extracted propositions.

Once the followup short answer questions were analyzed and response features generated, all of the IIOP related data from the Comments section on the phase one IIOP forms were incorporated into the features. This analysis generated 3 parent and 10 professional propositions in addition to those generated by the followup questionnaire. The IIOP comment section generated many more propositions than those included in this analysis, but the vast majority were child, parent or family specific, relating to progress or satisfaction with services in general.

Content Features

Length, level of difficulty and redundancy.

Table 36 (p. 85) summarizes the number of propositions from the followup questionnaires and the comments on the IIOP that fell in each content feature. Parents, in general, were more accepting of the IIOP as it stood than were professionals. One parent was emphatic ..." I think it is presented in a clear, concise, straightforward format right now." From the followup questionnaire, 25% of the parents felt nothing should be added, and 42% felt that nothing should be taken out. (Professionals were not specifically asked about adding and taking out items, but about what changes they would make). Item redundancy appears to be the biggest issue for parents, while item difficulty was at the forefront of professional concerns.

It is likely that this response pattern was influenced by the fact that parents who found it too difficult, simply did not respond in Phase One. For the parents who did respond, redundancy in the questions was a substantial sore point. This was illustrated by comments like "Repetition - not necessary", and "Some questions were difficult to answer because some sounded so much alike."

Item difficulty for professionals often centred around knowledge of family dynamics. One Head Start professional wrote, "Difficult to know so much about family dynamics. Found questions difficult--especially when parents often display their best behavior for professionals. It may be false". Other professionals expressed concern about item difficulty from the perspective of the parents in their program. One therapist working in a program for children with multiple physical and developmental difficulties wrote, "It was a very interesting evaluation, but I would be concerned that it couldn't be used by us totally, as many parents would not have the skills to complete".

IIOP format.

The redundancy issue is related to the format of the IIOP that required repeated reference back to the stem of the question. One parent wrote "I always needed to go back to the first part of the question to be sure what the whole question was... I think it would be easier if the whole question was used [with each outcome]." One professional wrote, of the format, that it was "too circular -- confusing after a few questions". The number of negative comments about redundancy and format, combined with evidence from Chapters Five and Six, was convincing evidence that changes would be necessary both to presentation style and to page content. These changes are described in the concluding chapter.

The rating format received limited, but emphatic comment. One professional found the rating scale confusing, stating that she had used -4 to indicate really no influence, when she felt the 0 rating wasn't definite enough. This comment was only made by one respondent, however. One parent had a difficulty with the rating format of another nature. She wrote, "[I] felt very confused about the way the questions were asked. I felt sometimes that any answer from -4 to +4 was applicable depending on my state of mind and the problems I had to deal with at the time". While this last is a reliability issue, addressed at some length in Chapter Five, her point is well taken. Still, these were the only two comments expressing difficulty with the rating format, which led to the conclusion that it is generally appropriate.

Item specific comments.

Parents and professionals both made influence and outcome-specific comments. The first feature of these was items that they felt should be added. Parents contributed the following:

- [An item that addresses] concerns about the method of receiving the diagnosis.
- *Sibling-child interaction

Professionals contributed the following:

- Parental acceptance/denial
- *Funding/financial resources
- Level of child's integration
- *Address extended family
- *Provide a definition of EI

The starred items can be accommodated by changes in the introduction or in item wording to make the inclusion of these components more salient. The other suggestions require further consideration. The suggestion about parental acceptance/denial might be appropriate for professionals, but not for parents. It is unlikely that parents would be able to identify that they were in denial about their child's disability, or that they could rate their own level of acceptance. This makes it inappropriate for the IIOP.

The suggestion about level of the child's integration is indirectly addressed in the Community Agency and Personal Support/Child Outcome items. Since it was not raised by the parents and professionals involved in the original development process for the IIOP, and occurred only once in the item specific propositions, adding it as a new item does not seem appropriate. The parent's suggestion regarding an item addressing concerns about methods of receiving their child's diagnosis is important, but too specific in the context of the IIOP.

The next feature of responses provided comments, suggestions or identified areas of confusion for specific item or influence/outcome pairs. The parents identified the following:

Community Agencies (CA) -	Add church, sports, library, etc. to community agency influence.
Community Agency Outcome (CAO), Personal Support Outcome (CP) -	Examples of [what is meant by] 'quality of support'
Intensity/Community Agency Outcome (INT/CAO) -	Don't seem to be connected; eliminate these kinds of items
Parent-Professional and Child-Professional Relationship (PP, CPR)	Specify current or previous program staff

Professionals contributed the following:

Community Agencies (CA) -	Some confusion re: 'agencies other than EI--parents regard the EI program as a community agency'
Community Agency Outcome (CAO), Personal Support Outcome (CP) -	Questioned the value of these to the professional

Community Agency (CA), Personal Support (PSUP) Community Agency Outcome (CAO), Personal Support Outcome (CP) -	Easy to confuse these
Community Agency and Personal Support influences and outcomes (CA/CAO), (PSUP/CP) -	Delete repeats
Personal Support (PSUP/CP) -	Need to specify whether or not this includes extended family (2 propositions)
Personal Support (PSUP/CP) -	Need to make it clear that it's parent personal support, not professional personal support
Personal Support (PSUP/CP) -	Made me aware of how little I know about this
Parent-Professional Relationship, (PP), Child-Professional Relationship (CPR) -	Include paraprofessionals in parent-professional and child-professional relationship influences
Information (INFO) -	Clarify EI/ECS
How the Family Works (FW) Parental Skills (PS) -	Way family works is one of its skills/resources
Sibling Outcomes (SB) -	Had limited contact

It is easy to see that the majority of propositions address Community Agency and Personal Support influences and outcomes. Looking back at the evidence from the previous two chapters, it is apparent that these items are frequent trouble spots. The remark regarding limited contact with siblings also complements the evidence from the use of "can't decide," "doesn't apply" and "no influence" ratings, as well as low test-retest agreement for Sibling influence/outcome relationships.

Conclusions

The confusions identified by parents and professionals must be accepted as legitimate. Combined with the evidence from Chapters Five and Six, it became apparent at this juncture that substantial changes in terms of item structure and format on the IIOP form were necessary. The final chapter reviews the evidence related to item structure, and presents an adapted form of the IIOP intended to remediate the problems that were identified in the data analyses.

CHAPTER VIII
REVISIONS AND CONCLUSIONS

Overview

This chapter begins by reviewing the evidence regarding the validity, reliability and utility of the IIOP. The provisional credibility of the IIOP rests on these foundations. Following this, suggested revisions to the IIOP, based on this evidence, are put forward. Finally, conclusions and future goals for research involving the IIOP are discussed.

Validity, Reliability, and Utility

Validity is concerned, on the surface, with whether the IIOP does what it is purported to do--that is, portray the interaction between EI and client systems at an effective level of complexity. Two sources of evidence support the claim that it does. The first is the literature supporting the theoretical premises upon which the IIOP is based. The second is the ratings of parents and professionals on the followup questionnaire that suggest a moderately strong endorsement (mean of 3.69 on a five point scale) for how well the IIOP represents EI-client system interaction, and a very strong endorsement (mean of 4.80) for the importance of agreement between parents and professionals about how EI works.

At a broader level, validity is concerned with the way in which the results of the tool are to be interpreted. The IIOP is designed to identify differences between parent and professional beliefs about how the EI process works. The reliability of most of the items is adequate to accomplish this task, with differences of two or more points likely to be real differences between parents and professionals.

Evidence regarding the utility of the IIOP is drawn primarily from the expert panel followup questionnaires. Here we find moderately strong support for the utility of the IIOP in the communication process between parents and professionals (3.60). Utility in the program evaluation process received moderate support (3.40). Professionals' views of the utility of the IIOP in the program planning process were divided, with a split mode of 2 and 4, yielding a mean of 2.90. This suggests potential of utility in the program planning process, but also suggests that modifications will be necessary to make this type of use likely. Reservations about the length, redundancy and difficulty of the IIOP constrained all of these ratings.

Response rates and content analysis of comments suggest that the IIOP is best used by year-long, direct contact programs that are committed to a family-centred approach to EI. Staff working in programs based on a consultancy model, or in block programs that run for a period of weeks and then stop, probably lack the amount and kind of contact with families necessary to form the knowledge base required to fill out the IIOP.

Head Start programs, even though many of them run a full year and are committed to family support, may also be less appropriate programs for IIOP use, due to the not uncommon low literacy levels of the parents with whom they work. Regardless of how much the written form of the IIOP is simplified, it is still heavily dependent on literacy skills. An interview version of the IIOP may have better potential for utility in these programs.

Revisions to the IIOP

Following the content analysis of the followup questionnaires, it became apparent that substantial revisions were necessary to improve the validity and utility of the IIOP. These revisions were guided by the data presented in Table 37 (p 86), which provides an item by item summary of the data concerning validity, reliability, and utility from Chapters Five, Six and Seven. Cells identified with numbers are those that exceeded the cut off points for satisfactory performance. The five features of evidence were as follows:

1. A difference equal to or greater than an absolute value of .20 between parent and professional use of number of features to define an item, and/or in the way features were used in definitions of influences and outcomes
2. Combined use of "no influence" (0) and "doesn't apply" (6) of greater than 52,
3. Test-retest +/- 1 agreement of less than .70;
4. Identification as redundant in content analysis
5. Identification as confusing or inappropriate in content analysis.

Revisions are presented as follows:

- Revisions to influences and influence descriptions and to the outcomes that will be associated with each influence
- Revisions to outcome descriptions
- Revisions to the introduction of the IIOP
- Sample revision to the presentation format of the IIOP

Revisions to Influences

Rationale for revisions.

These revisions were strongly guided by the content analyses of definitions and of followup data, as well as by the correlational evidence presented in Chapter Five. Revisions described here are worded for the Parent IIOP. Professional wording will be generally the same, except that "your child", and "how much you expect your child to do", etc. will be worded "the child", and "how much parents expect the child to do," etc. Wording for the Professional form is in Appendix G.

Generally speaking, if there was a difference of .20 or greater in the number of features parents and professionals used to define and influence or an outcome, they were slated for rewording of the item.

It also seemed necessary, because of frequently expressed concerns about difficulty, that all items be worded in the simplest possible language, and that the wording provide more information about what is meant by the terms used. The choice of associated outcomes -- outcomes that will be connected to the influence in the revised IIOP -- was primarily guided by the data in Table 37 (p. 86), but was also guided by judgement as to how direct the connection was between influence and outcome. If it appeared that more than one outcome variable mediated the relationship between influence and outcome, that particular influence/outcome pair was considered for elimination. Judgement also came into play in the choice to retain some influence/outcome pairs identified as problem spots on Table 37. These decisions were guided by the imperative to stay as true as possible to the theoretical basis for the IIOP.

Revised Influences and Their Associated Outcomes

Parent-Professional Relationship (PP):

This question is about your relationship with the person who works with your child in the program. Think about who does the most work with your child. It might be a key worker, a therapist, or a teacher. "Your relationship" means how you feel about that person. It also means how well you communicate with each other. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility)

Parent Skills and Resources (PS):

This question is about your skills and resources. Your skills are what you know and are able to do. This might be something like getting services for your child. Your resources are things like support from your extended family and financial resources. Resources are also things like patience and creativity. Think about how your skills and resources influenced these areas. (Associated Outcomes:

Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes, Sibling Outcomes, Community Agency Outcomes, Personal Support Outcomes)

How the Family Works (FW): Eliminated

Child Influences:

This question is about your child's skills. Children's skills are their knowledge and abilities. They are also things like curiosity and persistence. Think about how your child's skills influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Sibling Outcomes, Personal Support Outcomes. The 'resources' part of this influence has been eliminated because of limited use by parents and professionals in its definition and because all of the other influences are, in effect, child resources)

Intensity of Intervention (INT):

This question is about how many hours each week your child spends working with staff people from the early intervention program. Think about how the amount of time your child spent with program staff each week influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes)

Information (INFO):

This question is about the information you get from your child's program. This includes written information and spoken information. Think about how this information influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes, Personal Support Outcomes)

Child-Professional Relationship (CPR):

This question is about your child's relationship with their program staff person. This relationship includes things about your child, like curiosity. It also includes how your child and the professional feel when they are together. And it includes things about the professional, like knowing how to motivate your child. Think about the staff person who spends the most time with your child. How did your child's relationship with that person influence these areas? (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes)

Community Agencies (CA):

This question is about how agencies or organizations in the community help your family. This question does not include your early intervention program. Agencies might be the YMCA, or Social Services. Organizations might be your church, or your community league. Think about how easy it is to get services and emotional support from them. Think about how helpful services and support are. How did community agencies and organizations influence these areas? (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Program Home Compatibility, Family Outcomes, Sibling Outcomes)

Personal Support Influences (PSUP):

This question is about the personal support your family gets from friends and neighbours (not extended family members). Personal support means that people are understanding, and accepting. It also means that people are willing to help with things like babysitting and transportation. How did personal support influence these areas? (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Program Home Compatibility, Family Outcomes, Sibling Outcomes)

Eliminated features.

How the Family Works (FW) was eliminated because of correlational evidence of redundancy, and because family function is captured in the Family Outcomes (FM) component. Satisfaction was eliminated because it is one of the more common evaluation tools already in use by EI programs. Furthermore, although it appeared, for convenience, in the Influence section of the IIOP, satisfaction with outcome does not actually entail an influence-outcome relationship. Eliminating these items does not erode the theoretical base because of the redundancy between family works and parental skills and resources influences noted Chapter Five. Cutting them does, however, support the imperative to shorten and reduce redundancy that emerged from the content analysis of followup questionnaires and the comments section of the IIOP.

Revisions to Outcome Descriptions

General rationale for revisions:

These revisions were also guided by the content analysis of outcome definitions, and by the comments regarding need for clarification made by parents and professionals on the followup questionnaires. The rationale for changes is provided on an item by item basis, but the most common one was to increase specificity. This was imperative because of the evidence of disagreements between parents and professionals regarding how features were used to define outcomes, cited in Chapter Six.

Revisions and rationales.

Note the following abbreviations used in this section: CO = Child Outcome; PE = Parental Expectations; MC = Mother-Child Relationship; FC = Father-Child Relationship; FM = Family Outcomes; SB = Sibling Outcomes; CAO = Community Agency Outcomes; PSO = Personal Support Outcomes.

CO	How well your child achieved goals
Rationale	Achievement of goal vs the potential/personal attribute feature was selected because potential and personal attributes must be incorporated into goals and because 'achievement of goals' was the dominant feature for both parents and professionals in the content analysis.
PE	How much you expect your child to do
Rationale	This needs to be a 'how much' question in order to fit the rating scheme. It also fits with research, cited in the literature review, that reports that higher parent expectations are correlated with higher academic achievement in children with similar demographics.
MC	How well mother communicates with child How much mother enjoys child
Rationale	Broken down into the two dimensions to increase specificity.
FC	How much father enjoys child How well father communicates with child
Rationale	The same definition as MC was retained because mothers will probably still be doing most of the rating, so their definitions should be used. Fathers report being more interested in advocacy, and providing for the family, which is incorporated into the PS/FM feature.
PH	How well your family and the program work together How much alike the goals of your home and the program were
Rationale	This and all subsequent outcomes were broken down into dimensions to increase specificity.)
FM	How well your family works together

	How well your family deals with child's special needs
SB	How well the child gets along with brothers and sisters
	How child and brothers and sisters feel about each other
Rationale	Although the social-emotional feature was used very little, it is retained in this definition because of its theoretical and logical importance.
CA	How easy it was to get services in the community (other than your child's early intervention program)
	How understanding community agencies and organizations were
PSO	How understanding people in the community are
	How helpful friends and neighbours are

Revisions to IIOP Introduction

INFLUENCES AND OUTCOMES

This survey asks about eight influences that parents, professionals, and researchers believe affect children with special needs.

- parent-program staff relationship
- parent skills and resources
- your child's skills
- number of hours a week working with program staff
- information given to you by the program
- your child's relationship with program staff
- community agencies and organizations
- personal support from people in the community

THIS IS NOT A TEST.

There are no right and wrong answers to any of the questions. Answer each in the way that is best for your family and your child. It should take about half an hour to complete the survey. Your first impression is usually the best. Think about whether the influence is positive or negative. Rate each question on the strength of the influence on the areas described. If the influence had no effect, check 0. If you can't decide, or the area doesn't apply to you, check the box provided.

DEFINITIONS

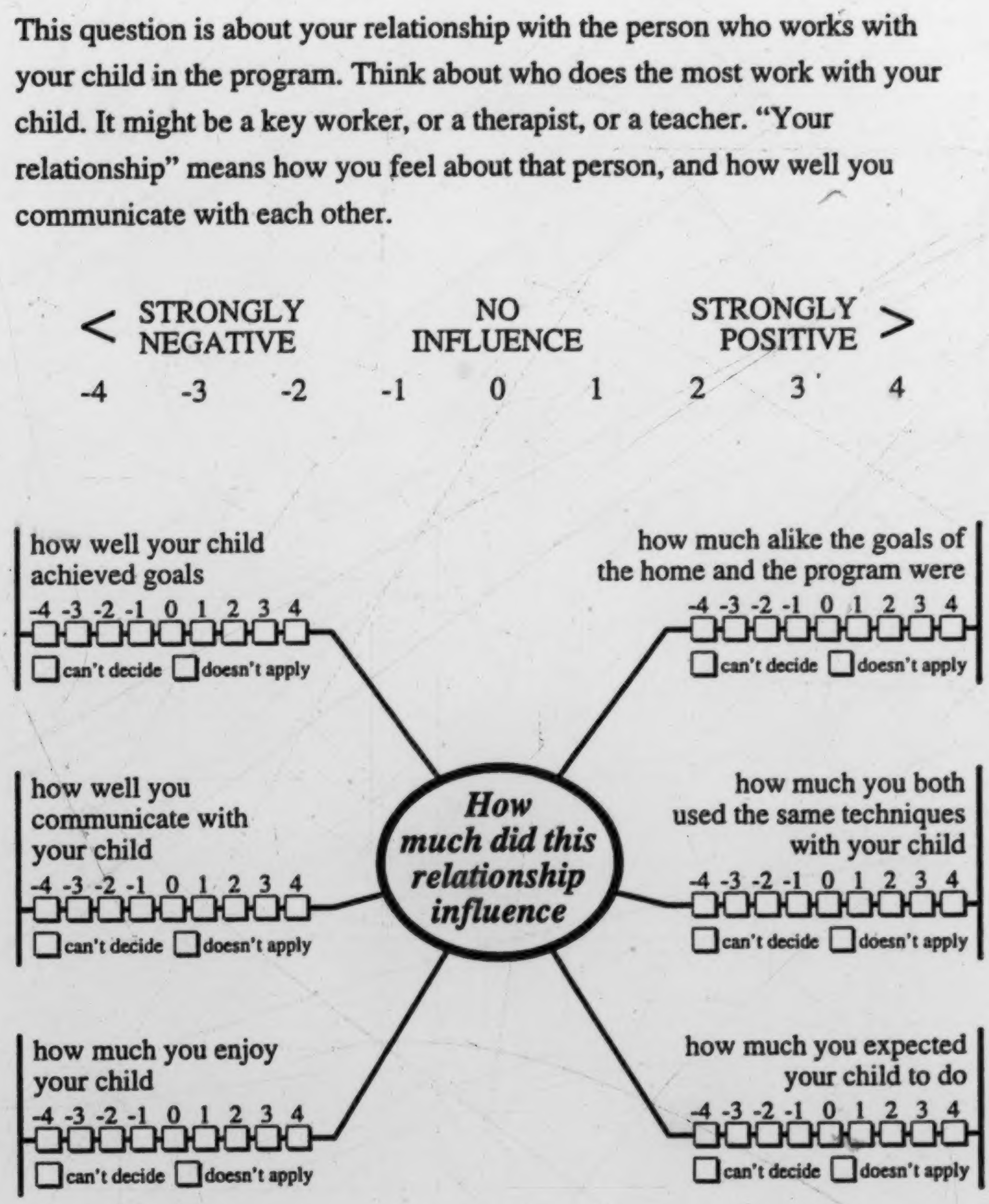
CHILD always means your child in the early intervention program

EARLY INTERVENTION includes all programs for children with special needs from the age of zero to five years old.

Sample Revision to IIOP Format

In the content analysis, several people remarked on the difficulty of remembering the stem of the question while they were considering the influence-outcome relationship. The revised presentation format, presented on the next page, should remediate this problem. This new format may also help to reduce the end of page response set discussed in Chapter Five, since the order of response will not necessarily be left to right, top to bottom.

Figure 2. Revised IIOP format.



This question is about your relationship with the person who works with your child in the program. Think about who does the most work with your child. It might be a key worker, or a therapist, or a teacher. "Your relationship" means how you feel about that person, and how well you communicate with each other.

< STRONGLY NEGATIVE — NO INFLUENCE — STRONGLY POSITIVE >

-4 -3 -2 -1 0 1 2 3 4

How much did this relationship influence

how well your child achieved goals

-4 -3 -2 -1 0 1 2 3 4

☐☐☐☐☐☐☐☐☐

☐ can't decide ☐ doesn't apply

how much alike the goals of the home and the program were

-4 -3 -2 -1 0 1 2 3 4

☐☐☐☐☐☐☐☐☐

☐ can't decide ☐ doesn't apply

how well you communicate with your child

-4 -3 -2 -1 0 1 2 3 4

☐☐☐☐☐☐☐☐☐

☐ can't decide ☐ doesn't apply

how much you both used the same techniques with your child

-4 -3 -2 -1 0 1 2 3 4

☐☐☐☐☐☐☐☐☐

☐ can't decide ☐ doesn't apply

how much you enjoy your child

-4 -3 -2 -1 0 1 2 3 4

☐☐☐☐☐☐☐☐☐

☐ can't decide ☐ doesn't apply

how much you expected your child to do

-4 -3 -2 -1 0 1 2 3 4

☐☐☐☐☐☐☐☐☐

☐ can't decide ☐ doesn't apply

Concluding Remarks and Future Directions

The IIOP employs a high level of abstraction in order to be applicable to most EI programs. It remains to be seen whether the profile produced by the IIOP can be translated into meaningful action. Future studies must investigate the validity of using parent and professional comparisons of beliefs on the IIOP as a basis for improving the effectiveness of EI.

The next phase of development and validation should replicate some of the features of this thesis study. This replication is necessary because of revisions to the original form. These features include investigations of item structure and reliability for the revised IIOP, and of professional and parental judgements of appropriateness of content and utility.

Future study must also address the efficacy of using the IIOP. This question could be addressed through analysis of results in terms of degree of match between parents and professionals, changes in profiles over the course of the program year, and the relationship of degree of match on the IIOP between parents and professionals to desired outcomes as specified by Individual Education Plans. In addition, trends in IIOP profiles based on severity of disability, type of program, child's age, length of time in EI, and type of disability can be explored. It is possible that the IIOP will prove to be sensitive to these kinds of differences. If so, its utility in planning may be increased.

The evidence from the current study appears to be more than ample to establish provisional credibility of the idea behind the IIOP, its operalization in the form of the IIOP, and its potential utility, especially for improving communication between parents and professionals. The strong endorsement of the idea behind the IIOP from parents and professionals is further encouragement to continue the development and validation process.

Table 1
Summary of Influences and Outcomes for the IIOP

INFLUENCES	OUTCOMES
Parent-Professional Relationship (PP)	Child Outcomes (CO)
Parent Skills and Resources (PS)	Parental Expectations (PE)
How the Family Works (FW)	Mother-Child Relationship (MC)
Child Influences (CI)	Father-Child Relationship (FC)
Intensity of Treatment (INT)	Program-Home Compatibility (PH)
Information (INFO)	Family Outcomes (FM)
Child-Professional Relationship (CPR)	Sibling Outcomes (SB)
Community Agencies (CA)	Community Agency Outcomes (CAO)
Personal Support (PSUP)	Personal Support Outcomes (PSO)

Table 2
Hypothesized Conceptual Boundaries for IIOP Influences and Outcomes

INFLUENCES	OUTCOMES
(PP) Parent-professional relationship: level of trust, mutual respect	(CO) Child outcomes: behavior, communication, motor, social
(PS) Parent skills and resources: knowledge and abilities, personality, beliefs, emotional and physical resources	(PE) Parent expectations: about child achievement or ability
(FW) How the family works: how well emotional and physical needs of all family members are met	(MC & FC) Mother and father-child relationship: mutual enjoyment, ease of communication
(CI) Child skills and resources: child's age, abilities, temperament, severity of problem	(PH) Program-home consistency: similarities and ways they complement each other
(INFO) Information: written or verbal communication from program to home	(FM) Family outcomes: family's ability to cope with stress associated with child's problem
(INT) Intensity of intervention: time child and/or parents spent in interaction with professionals or paraprofessionals	(SB) Sibling outcomes: reactions and interactions of brothers and sisters
(CPR) Child-professional relationship: mutual enjoyment, professional's ability to motivate child	(CAO) Community agency outcomes: availability and quality of support from agencies other than EI program
(CA) Community agencies: availability and quality of support from agencies other than EI program	(PSO) Personal support: quality of personal support from extended family and others
(PSUP) Personal support: emotional and physical support from extended family or others	

Table 3
Child Demographics

	Range	Mean	Median	Mode
Age in months	5 - 103	55.1	57	57
Months in program	1.5 - 56	10.8	7	5
Hours per week	0.25 - 35	12.4	11.5	10

Table 4
Item Means for the Unique Cases File

OUTCOMES ---->

INFLUENCE	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP	2.66	2.47	2.45	2.04	2.68	2.12	1.68	1.35	1.41
PS	2.73	2.55	2.74	2.43	2.55	2.43	2.32	1.94	2.31
FW	2.62	2.47	2.65	2.58	2.39	2.48	2.34	1.98	2.23
CI	2.46	2.32	2.39	2.33	2.26	2.00	1.92	1.71	2.05
INT	2.88	2.42	2.22	1.89	2.59	2.21	1.73	1.49	1.60
INFO	2.44	2.44	2.23	1.82	2.53	1.97	1.51	1.54	1.55
CPR	2.98	2.48	2.07	1.67	2.60	1.90	1.41	1.40	1.30
CA	1.66	1.50	1.62	1.32	1.53	1.84	1.22	1.58	1.54
PSUP	1.68	1.49	1.77	1.61	1.42	1.84	1.46	1.29	2.11

Note: INFLUENCES: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; PSUP = personal support; OUTCOMES: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

Table 5
Early and Late Cell Use of "No Influence" Rating

	Early Quadrant	Late Quadrant
Booklet	7.57	23.5
Page	11.38	20.2

Table 6
Parent and Professional Use of 'Doesn't Apply' (6)
OUTCOMES ---->

INF	CO p/pr	PE p/pr	MC p/pr	FC p/pr	PH p/pr	FM p/pr	SB p/pr	CAO p/pr	PSO p/pr
PP	0/0	2/0	5/0	12/8	0/0	4/0	16/13	26/15	6/5
PS	1/0	1/0	1/0	5/8	0/0	2/0	17/13	19/11	1/3
FW	0/0	3/0	0/0	1/8	3/0	1/0	16/12	30/12	7/3
CI	0/0	2/0	2/1	5/8	2/0	3/0	16/13	30/12	6/2
INT	0/0	2/0	2/1	12/13	0/0	3/3	17/16	32/13	13/7
INFO	4/3	3/3	8/3	13/11	2/3	9/3	25/3	29/16	11/8
CPR	0/1	4/0	6/4	14/10	1/0	6/0	22/14	27/14	15/4
CA	13/11	16/11	16/11	20/19	20/11	18/10	29/23	15/17	20/13
PSUP	6/4	10/3	10/4	15/0	18/3	8/3	22/14	24/12	5/5

Note: **p = parent; pr = professional; INF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; SUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

Table 7
Parent and Professional Use of 'Can't Decide' (5)
OUTCOMES ---->

INF	CO p/pr	PE p/pr	MC p/pr	FC p/pr	PH p/pr	FM p/pr	SB p/pr	CAO p/pr	PSO p/pr
PP	0/1	1/0	1/6	1/16	2/0	1/2	3/8	6/11	4/17
PS	1/0	2/1	1/1	1/15	2/2	0/5	0/5	4/11	3/18
FW	1/6	2/11	2/8	0/12	3/6	1/7	1/11	4/20	1/19
CI	2/1	4/4	2/1	1/13	4/4	1/8	1/6	3/13	2/20
INT	0/0	1/0	1/3	2/16	2/1	2/0	1/11	3/12	4/21
INFO	2/2	1/2	0/1	0/15	2/18	1/0	1/4	4/9	1/22
CPR	0/2	1/1	2/3	3/18	4/3	0/6	1/10	6/10	2/19
CA	3/9	2/14	2/15	2/19	2/11	3/11	1/15	5/19	2/22
PSUP	0/24	2/24	2/19	3/0	2/19	2/21	2/24	3/25	3/23

Note: P = parent; Pr = professional; IF = INFLUENCES: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; SUP = personal support; OUTCOMES: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

Table 8
Test - Retest Correlations
OUTCOMES ---->

INF	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP	.60	.62	.48	.59	.65	.60	.56	.46	.67
PS	.80	.72	.72	.68	.85	.80	.53	.84	.69
FW	.79	.64	.75	.49	.79	.67	.53	.65	.73
CI	.76	.58	.82	.67	.73	.71	.60	.45	.64
INT	.62	.39	.71	.75	.30	.76	.64	.74	.59
INFO	.56	.53	.52	.49	.60	.69	.46	.53	.68
CPR	.35	.37	.79	.82	.57	.52	.66	.91	.65
CA	.72	.61	.72	.69	.75	.77	.66	.50	.44
PSUP	.68	.79	.81	.76	.82	.62	.82	.81	.77

Note: **INF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; PSUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

Table 9

Percent of Agreement +/- 1.

OUTCOMES ---->

INF	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP	83	81	71	82	85	65	79	79	75
PS	79	79	81	82	76	83	71	76	81
FW	95	63	86	71	86	79	72	89	69
CI	81	78	95	85	93	69	77	65	56
INT	93	80	85	72	70	78	48	67	52
INFO	81	83	88	73	81	80	59	84	91
CPR	79	62	71	80	81	78	82	87	65
CA	91	82	84	81	81	84	60	80	68
PSUP	81	90	82	72	50	63	79	74	85

Note: **INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CAO = community agencies; PSUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CA = community agency outcomes; PSO = personal support outcomes

Table 10

Number of Differences of Two or More Points in Parent and Professional Ratings

OUTCOMES ---->

INF	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP	10	12	18	15	10	18	9	7	12
PS	14	12	13	13	15	18	7	12	13
FW	9	14	13	11	15	17	8	8	7
CI	12	13	11	9	15	17	8	8	7
INT	12	12	15*	13*	14	14	8	6	9
INFO	14	16*	16	13	13	19	9	8	9
CPR	9	15	17*	11*	11	15	9	9	10
CA	9	12	7	7	5	11	2	5	3
PSUP	10	9	12	10	9	9	1	3	4

Note: **INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; PSUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes; * = p = .05 or better

Table 11
Influence Features and Examples from Content Analysis

Inf		Feature and Example of Proposition
PP	1.	**Emotional**: care about child's success
	2.	**Communication/Teamwork**: agreeing on common practices
PS	1.	**Knowledge and Abilities**: ability to access resources
	2.	**Personal Attributes**: wisdom, unconditional love
	3.	**Resources**: books, professional staff, finances
FW	1.	**General Interactions/Roles and Relationships**: mutual support, united front, division of responsibility
	2.	**Accommodations to Child With Special Needs**: finding activities the whole family can do, not just the able bodied
CI	1.	**Knowledge and Abilities**: ability to communicate wants and needs, strengths
	2.	**Personal Attributes**: enthusiasm, patience
	3.	**Resources**: environment, friends and family
INT	1.	**Time spent with staff from program.**
INFO	1.	**Written**: Notes home, IEP, homebooks
	2.	**Verbal**: Phone calls, family conferences
CPR	1.	**Emotional Connections**: supportive, positive or negative
	2.	**Child Attributes**: friendly, happy, relaxed
	3.	**Professional Attributes**: competent, trustworthy, caring
CA	1.	**Quality Issues**: supportive, positive, cooperative
	2.	**Availability Issues**: church, daycare, assisting when needed
PSUP	1.	**Social/Emotional**: complete inclusion, disability awareness, support
	2.	**Physical/Action**: babysitting, transportation

Note: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity; INFO = information; CPR = child-professional relationship; CA = community agencies; PSUP = personal support

Table 12

Outcome Features and Examples From Content Analysis

OUT		Feature and Example of Proposition
CO	1.	**Judged in Relation to Ability or Personal Attribute**: how well child is doing based on his own potential
	2.	**Judged in Relation to Goals, Norms**: Improvement in skill areas, attainment of IEP goals, how well doing compared to peers
PE	1.	**Basis for Expectation**: parent's goals, IPP goals, based on son's abilities
	2.	**Quality of Expectation**: reasonable, too high or low, conscious or subconscious
MC & FC	1.	**Emotional**: enjoys child, closeness, bonding time
	2.	**Learning/Communicating**: learn together, ability to anticipate child's needs
PH	1.	**Complementary**: how well able we are to work together, awareness of each other's strategies
	2.	**Similarity/Consistency**: sharing common goals, following similar routines
FM	1.	**Ability/Personal Characteristics**: ability to support each other, emotional outbursts
	2.	**Action/Resources**: strategies, organization
SB	1.	**Emotions**: feelings, acceptance of child with disability
	2.	**Action/Practice**: how well sibs communicate, frequency of conflict
CAO	1.	**Social/Emotional**: willingness to adapt, supportive
	2.	**Action/Benefit**: how agencies complement program, how agencies provide info.
PSO	1.	**Social/Emotional**: willing to listen, empathy
	2.	**Physical/Action**: available when needed

Note: OUT = Outcome; CO = child outcome; PE = parent expectations; MC & FC = mother and father-child relationship, PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

Table 13
Influence Features and Inter-rater Agreement

Influence	Feature	Feature	Feature	% Sorter Agree
Parent - Professional Relationship	Emotional Aspects	Communication/ Teamwork		76.9%
Parent Skills & Resources	Knowledge & Ability	Personal Attributes	Resources	85.7%
Child Influences	Knowledge & Ability	Personal Attributes	Resources	85.7%
Child - Professional Relationship	Emotional Aspects	Child Attributes	Prof. Attributes	80.0%
How family works	General Interact.	Special Accommodations		79.1%
Community Agencies	Available	Quality Issues		80.9%
Personal Support	Social - Emotional	Physical/ Action		85.2%

Table 14

Outcome Features and Inter-rater Agreement

Outcome	Feature	Feature	% Sorter Agreement
Child Outcome	External Criteria	Ability/ Personal Attributes	88.2%
Parent Expectations	Basis of Expectation	Nature of Expectation	88.9%
Mother & Father-Child Relationship	Emotional	Learning/ Communication	92.3%
Program - Home Compatibility	Complement	Consistent	79.2%
Family Outcomes	Ability/ Personal Attributes	Actions & Resources	84.6%
Sibling Outcomes	Emotions	Actions/ Practices	92.9%
Community Outcomes	Social/ Emotional	Service Related	92.3%
Personal Support	Social/ Emotional	Physical/ Action	87.1%

Table 15
Differences in Parent and Professional Use of Features for the Parent-Professional (PP) Relationship Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	31/43	.72	10/22	.45	.27
(communication/team work)	(28/31)	(.90)	(9/10)	(.90)	(0)
(emotional)	(3/31)	(.10)	(1/10)	(.10)	(0)
Used both features	12/43	.30	12/22	.55	-.25

Note: Pars. = Parents; Profs. = Professionals

Table 17
Differences in Parent and Professional Use of Features for Parent Skills and Resources (PS) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	14/43	.33	5/22	.23	.10
(knowledge, abilities)	(13/14)	(.93)	(5/5)	(1.00)	(-.07)
(resources)	(1/14)	(.07)	(0)	(0)	(.07)
Used two features	27/43	.63	13/22	.59	.04
knowledge, resources	(22/27)	(.81)	(6/13)	(.46)	(.35)
knowledge, personal attributes	(5/27)	(.19)	(3/13)	(.23)	(-.04)
personal attributes, resources	(0)	(0)	(4/13)	(.31)	(-.31)
Used all three features	2/43	.15	2/22	.09	-.04

Note: Pars. = Parents; Profs. = Professionals

Table 18
Differences in Parent and Professional Use of Features for the How the Family Works (FW) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**37/43**	**.86**	**15/22**	**.68**	**.18**
(general interaction)	(34/37)	(.92)	(14/15)	(.93)	(-.01)
(special accommodations)	(3/37)	(.08)	(1/15)	(.07)	(.01)
Used both features	**6/43**	**.14**	**7/22**	**.32**	**-.18**

Note: Pars. = Parents; Profs. = Professionals

Table 19
Differences in Parent and Professional Use of Features for Child Skills and Resources (CI) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**15/39**	**.38**	**9/22**	**.41**	**-.03**
(knowledge, abilities)	(13/15)	(.87)	(9/9)	(1.00)	(-.13)
(personal attributes)	(2/15)	(.13)	(0)	(0)	(.13)
Used two features	**22/39**	**.56**	**12/22**	**.55**	**.01**
knowledge, resources	(13/22)	(.59)	(9/12)	(.75)	(-.16)
knowledge, personal attributes	(9/22)	(.41)	(2/12)	(.17)	(.24)
personal attributes, resources	(0)	(0)	(1/12)	(.08)	(-.08)
Used all three features	**2/39**	**.05**	**1/22**	**.05**	**0**

Note: Pars. = Parents; Profs. = Professionals

Table 20
Differences in Parent and Professional Use of Features for the Information (INFO) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**2/30**	**.07**	**0**	**0**	**.07**
(written)	(2/2)	(1.00)	(0)	(0)	(1.00)
(verbal)	(0)	(0)	(0)	(0)	(0)
Used both features	**28/30**	**.93**	**22/22**	**1.00**	**-.07**

Note: Pars. = Parents; Profs. = Professionals

Table 21
Differences in Parent and Professional Use of Features for Child-Professional Relationship (CPR) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**25/37**	**.68**	**10/20**	**.50**	**.18**
(emotional)	(23/25)	(.92)	(8/10)	(.80)	(.12)
(professional attributes)	(2/25)	(.08)	(2/10)	(.20)	(-.12)
Used two features	**11/37**	**.30**	**9/20**	**.45**	**-.15**
emotional, prof. attributes	(6/11)	(.55)	(6/9)	(.67)	(-.12)
child attributes, prof. attrib.	(1/11)	(.09)	(0)	(0)	(.09)
emotional, child attrib.	(5/11)	(.45)	(3/9)	(.33)	(.12)
Used all three features	**1/37**	**.03**	**1/20**	**.05**	**-.02**

Note: Pars. = Parents; Profs. = Professionals

Table 22
Differences in Parent and Professional Use of Features for the Community Agency (CA) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**20/30**	**.67**	**17/21**	**.81**	**-.14**
(availability)	(9/20)	(.45)	(7/17)	(.41)	(.03)
(quality)	(11/20)	(.55)	(10/17)	(.59)	(-.04)
Used both features	**10/30**	**.30**	**4/21**	**.19**	**.14**

Note: Pars. = Parents; Profs. = Professionals

Table 23
Differences in Parent and Professional Use of Features for the Personal Support (PSUP) Influence

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**21/41**	**.51**	**4/21**	**.19**	**.32**
(social/ emotional)	(18/21)	(.86)	(4/4)	(1.00)	(-.14)
(physical/ action)	(3/21)	(.14)	(0)	(0)	(.14)
Used both features	**20/41**	**.50**	**17/21**	**.81**	**-.31**

Note: Pars. = Parents; Profs. = Professionals

Table 24
Differences in Parent and Professional Use of Features for Child Outcomes (CO)

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**22/22**	**1.0**	**7/9**	**.78**	**.22**
(related to goals, norms)	(19/22)	(.86)	(6/7)	(.86)	(0)
(related to personal attributes)	(3/22)	(.14)	(1/7)	(.14)	(0)
Used both features	**0/22**	**0**	**2/9**	**.22**	**-.22**

Table 25
Differences in Parent and Professional Use of Features for Parental Expectations Outcome (PE)

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**19/20**	**.90**	**8/9**	**.89**	**.01**
(based on goals, abilities)	(16/19)	(.84)	(6/8)	(.75)	(.09)
(quality - realistic, too high or low)	(3/19)	(.16)	(2/8)	(.25)	(-.09)
Used both features	**2/21**	**.10**	**1/9**	**.11**	**-.01**

Table 26
Differences in Parent and Professional Use of Features for Mother-Child (MC) and Father-Child (FC) Relationship Outcome

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**12/21**	**.57**	**4/9**	**.44**	**.13**
(learning, communication)	(4/12)	(.33)	(3/4)	(.75)	(-.42)
(emotional)	(8/12)	(.67)	(1/4)	(.25)	(.42)
Used both features	**9/21**	**.43**	**5/9**	**.56**	**-.13**

Table 27
Differences in Parent and Professional Use of Features for Program-Home Compatibility (PH) Outcome

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**18/22**	**.82**	**7/8**	**.88**	**-.06**
(compatible, complementary)	(11/18)	(.61)	(5/7)	(.71)	(-.10)
(consistent, similar)	(7/18)	(.39)	(2/7)	(.29)	(-.10)
Used both features	**4/22**	**.18**	**1/8**	**.13**	**.05**

Table 28
Differences in Parent and Professional Use of Features for Family Outcome (FM)

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**11/18**	**.61**	**6/8**	**.75**	**-.14**
(ability, personal attributes)	(4/11)	(.36)	(4/6)	(.67)	(-.31)
(actions, resources)	(7/11)	(.64)	(2/6)	(.33)	(.31)
Used both features	**7/18**	**.39**	**2/8**	**.25**	**.14**

Table 29
Differences in Parent and Professional Use of Features for Sibling Outcome (SB)

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**4/19**	**.21**	**5/8**	**.63**	**-.42**
(actions, practice)	(3/4)	(.75)	(4/5)	(.80)	(-.05)
(emotions)	(1/4)	(.25)	(1/5)	(.20)	(.05)
Used both features	**15/19**	**.80**	**3/8**	**.38**	**.42**

Table 30
Differences in Parent and Professional Use of Features for Community Agency Outcome (CAO)

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**16/19**	**.84**	**5/8**	**.63**	**.21**
(social/ emotional)	(3/16)	(.19)	(1/5)	(.20)	(-.01)
(availability, action,benefit)	(13/16)	(.81)	(4/5)	(.80)	(.01)
Used both features	**3/19**	**.16**	**3/8**	**.38**	**-.22**

Table 31
Differences in Parent and Professional Use of Features for Personal Support Outcome (PSO)

Feature number and components	#Pars. using feature	% Pars. using feature	# Profs. using feature	% Profs. using feature	Difference between parents and profs.
Used one feature	**10/19**	**.53**	**4/8**	**.50**	**.03**
(social/ emotional)	(7/10)	(.70)	(2/4)	(.50)	(.20)
(physical/ action)	(3/10)	(.30)	(2/4)	(.50)	(-.20)
Used both features	**9/19**	**.47**	**4/8**	**.50**	**-.03**

Table 32
Match Between Influence Features and Hypothesized Conceptual Boundaries for Intervention Constructs

Influences	**Features (Present = Yes(Y) or Absent = No(N))**	**Rater 1, 2**
(PP) Parent-professional relationship: level of trust, mutual respect	Emotionally,	y, y
	Communication/Learning	n, y
(PS) Parent skills and resources: knowledge and abilities, personality, beliefs, emotional and physical resources	Knowledge & Ability	y, y
	Personal Attributes	y, y
	Resources	y, y
(FW) How the family works: how well emotional and physical needs of all family members are met	General Interactions	y, y
	Special Accommodations	y, n
(CI) Child skills and resources: child's age, abilities, temperament, severity of problem	Knowledge & Ability	y, y
	Personal Attributes	y, y
	Resources	n, n
(INFO) Information: written or verbal communication from program to home	Verbal	y, y
	Written	y, y
(INT) Intensity of intervention: time child and/or parents spent in interaction with professionals or paraprofessionals	Time spent with professionals and paraprofessionals	y, y
(CPR) Child-professional relationship: mutual enjoyment, professional's ability to motivate child	Emotional	y, y
	Child attributes	n, y
	Professional attributes	y, y
(CA) Community agencies: availability and quality of support from agencies other than EI program	Availability	y, y
	Quality	y, y
(PSUP) Personal support: emotional and physical support from extended family or others	Social/Emotional	y, y
	Physical/Action	y, y

Table 33

Match Between Outcome Features and Hypothesized Conceptual Boundaries for Outcome Constructs

Outcomes	Features, (Present = Yes (Y); Absent = No (N))	Rater 1, 2
(CO) Child outcomes: behavior, communication, motor, social	Basis for expectation	y, y
	Ability/ Personal attributes	n, y
(PE) Parent expectations: about child achievement or ability	Basis for expectation	y, y
	Nature of expectation	y, y
(MC & FC) Mother and father-child relationship: mutual enjoyment, ease of communication	Emotional	y, y
	Communication/ Learning	y, y
(PH) Program-home consistency: similarities and ways they complement each other	Similarity	y, y
	Complementary	y, y
(FM) Family outcomes: family's ability to cope with stress associated with child's problem	Ability/ Personal Characteristics	y, y
	Action/Resources	y, y
(SB) Sibling outcomes: reactions and interactions of brothers and sisters	Emotional	y, y
	Physical/Action	y, y
(CAO) Community agency outcomes: availability and quality of support from agencies other than EI program	Social/Emotional	y, y
	Action/Benefit	y, n
(PSO) Personal support: quality of personal support from extended family and others	Social/Emotional	y, y
	Physical/Action	y, y

Table 34
Quantitative Portion of Expert Panel Questionnaire

Question	Mean	1	2	3	4	5
1	4.80	0	0	0	2	8
2	3.70	0	1	2	6	1
3	3.60	0	0	6	4	5
4	2.90	1	4	1	3	1
5	3.40	0	0	8	0	2

Note: Refer to question list, p. 50, for content of question numbers.

Table 35
Quantitative Portion of Parent Questionnaire

Question	Mean	1	2	3	4	5
1	4.79	0	0	0	5	19
2	3.68	0	0	11	7	4
3	4.25	0	1	3	9	11
4	3.83	0	1	7	11	5
5	4.25	1	0	2	10	11

Note: Refer to question list, p. 52, for content of question numbers.

Table 36
Propositions Regarding Length, Level of Difficulty and Redundancy

Content Feature	Parents	Professionals
Fine, no problems	2	1
Don't add anything	6	NA
Don't take anything out	10	NA
Difficult	5	8
Items redundant, confusing	9	2
IIOP too long	2	4

Table 37
Summary of Reasons to Eliminate Items

OUTCOMES ---->

INF	CO 1	PE	MC 1,4	FC 1,4	PH	FM 1	SB 1	CAO 1	PSO 1
PP 1, 5						3	2	2	
PS 1, 4									
FW 4							2	2	
CI 1, 5						3	2, 3	2, 3	
INT							2	2,3,5	2, 3
INFO							2	2	
CPR 1, 5	3		2				2	4	2, 3
CA 1, 5			2				2	4	2, 3
PSUP 1, 5			2		2, 3	2, 3			4

Note: **INF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; SUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes; **REASONS TO ELIMINATE**: **1** = parent/professional disagreement on number and/or how features used to define; **2** = 0 + 6 ratings > 52; **3** = +/- 1 agreement < .7; **4** = labelled redundant in content analysis; **5** = labelled confusing or inappropriate in content analysis

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APPENDIX A

PROTOTYPE PARENT AND PROFESSIONAL IIOP

Intervention Influences and Outcomes Profile

For Parents

Child's Name ______________________________

Parent/Guardian ______________________________

Date ______________________________

Address ______________________________

____

City ____________ Province ____________ Postal Code ________

Phone ________________

Current Program ______________________________

Child's Information...

Sex
☐ Male ☐ Female

Birthday ____________

Nature of Problem (eg. hearing loss, language delay, cerebral palsy, etc.)

____

____

Severity of problem **as diagnosed** if known
☐ Mild ☐ Moderate
☐ Severe ☐ Profound

Severity of problem **in your judgement**
☐ Mild ☐ Moderate
☐ Severe ☐ Profound

Months in current program ____

How many hours a week was your child involved in the program? ____________

How many hours a week was your child involved in intervention activities at home and in the community, other than the program? ____________

Was your child involved in intervention before the present program?
☐ Yes ☐ No

If Yes, for how many months?

____

Who is in your family (family members who have regular interactions with your child)?

____

____

____

Optional Personal Information

Marital Status
☐ Single ☐ Married
☐ Common Law ☐ Divorced

Language spoken at home

____

Head of Household
☐ Mother
☐ Father
☐ Mother & Father
☐ Other (please specify)

____

Mother's Education (highest grade or degree completed)

____

Father's Education (highest grade or degree completed)

____

Family's Yearly Income
☐ $15,000 and under
☐ $15-22,000 ☐ $37-42,000
☐ $22-30,000 ☐ $42-52,000
☐ $30-37,000 ☐ Over $52,000

Influences and Outcomes...

This survey asks about nine influences that parents, professionals and researchers believe affect the child.

- parent-professional relationship
- parent skills and resources
- the way the family works together
- the child's skills and resources
- number of hours a week receiving service
- information given to parents
- child's relationship with the professional
- community agencies
- people in the community

This is not a test.

There are no right or wrong answers to any of the questions. Answer each in the way that best fits you or the child. Your first impression is usually best.

Rate each question on the strength of the influence, either positive or negative. If the influence had no effect, check '0'. If you can't decide or the question doesn't apply, check the box provided.

Sample Question...

Child achievement?

< strongly negative strongly positive >

-4	-3	-2	-1	0	+1	+2	+3	+4
☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ can't decide ☐ doesn't apply

Please turn page for the first influence...

Influence 1:
Your relationship with the professional(s) most responsible for carrying out your child's program

What does parent-professional relationship mean to you?

How did the relationship influence these areas...

	« strongly negative								strongly positive »
	-4	-3	-2	-1	0	+1	+2	+3	+4
Your child's achievement?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Your expectations about your child's achievement?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Mother-child interaction, including mutual enjoyment and ease of communication?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				

	« strongly negative								strongly positive »
	-4	-3	-2	-1	0	+1	+2	+3	+4
Father-child interaction, including mutual enjoyment and ease of communication?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
How home and program complement each other in meeting your child's needs?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Your family's ability to cope with stress related to your child's problems?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Reactions and interactions of brothers and sisters?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
The quality of support for your child and family from friends and neighbors?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				

Influence 2:
Your skills and resources

What does your skills and resources mean to you?

____
____
____
____
____
____

How did your skills and resources influence these areas...

Your child's achievement?
‹ strongly negative strongly positive ›
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?
‹ strongly negative strongly positive ›
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 3:
The way your family works together

What does the way your family works together mean to you?

How did the way your family works together influence these areas...

Your child's achievement?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 4:
Your child's skills and resources

What does your child's skills and resources mean to you?

How did your child's skills and resources influence these areas...

Your child's achievement?
< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?
< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 5:
The number of hours a week receiving service

What does the number of hours a week your child received service mean to you?

____

____

____

____

____

____

How did the number of hours a week influence these areas...

Your child's achievement?

< strongly negative   strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative   strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 6:
The Information given to you from the Early Intervention Program

What does the information given to you mean to you?

____
____
____
____
____
____

How did the information given to you influence these areas...

Your child's achievement?
< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

Your expectations about your child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

Father-child interaction, including mutual enjoyment and ease of communication?
< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

How home and program complement each other in meeting your child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

Your family's ability to cope with stress related to your child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

The quality of support for your child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ *can't decide* ☐ *doesn't apply*

Influence 7:
Your child's relationship with the professional(s)

What does your child's relationship with the professional(s) most responsible for carrying out the child's program mean to you?

How did your child's relationship with the professional(s) influence these areas...

Your child's achievement?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 8:
Community agencies

What does community agencies including availability of daycare and emotional or physical support from the church, YMCA, etc. mean to you?

____

____

____

____

____

____

How did community agencies influence these areas...

Your child's achievement?

< strongly negative — strongly positive >

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative — strongly positive >

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

☐ can't decide ☐ doesn't apply

Influence 9:
People in the community

What does emotional or physical support from people in the community such as friends and neighbors mean to you?

How did people in the community influence these areas...

Your child's achievement?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your expectations about your child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting your child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Your family's ability to cope with stress related to your child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for your child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Satisfaction with Outcome

How would you rate your current satisfaction with...

	< strongly dissatisfied								strongly satisfied >
	-4	-3	-2	-1	0	+1	+2	+3	+4
Child's achievement	☐	☐	☐	☐	☐	☐	☐	☐	☐
Parental expectations	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mother-child relationship	☐	☐	☐	☐	☐	☐	☐	☐	☐
Father-child relationship	☐	☐	☐	☐	☐	☐	☐	☐	☐
Home-program consistency	☐	☐	☐	☐	☐	☐	☐	☐	☐
How well the family works together	☐	☐	☐	☐	☐	☐	☐	☐	☐
How brothers and sisters interact	☐	☐	☐	☐	☐	☐	☐	☐	☐
Community agencies	☐	☐	☐	☐	☐	☐	☐	☐	☐
Personal social support	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments

Comments

If you have been involved in Early Intervention for more than one year, would you be willing to fill out the I.I.O.P. one more time?

☐ Yes ☐ No

Thank you for taking time to fill out this survey.

Please return the signed consent form with your survey.

Intervention Influences and Outcomes Profile

For Professionals

Child's Name ____________________

Program ____________________

Date ____________________

Professional's Name ____________________

Education
☐ Diploma
☐ Bachelors
☐ Masters
☐ Ph.D.
☐ Other ____________

Discipline
☐ Early Childhood Education
☐ Psychology
☐ Education
☐ Other ____________

Years of experience in Early Intervention ________

Years of experience in current program ________

Kathryn Ritter-Brinton, Ph.D. Candidate
Department of Educational Psychology, University of Alberta

Child's Information...

Sex
☐ Male
☐ Female

Birthday____________________

Nature of Problem (eg. hearing loss, language delay, cerebral palsy, etc.)

____
____
____
____
____

Severity of problem
as diagnosed if known
☐ Mild
☐ Moderate
☐ Severe
☐ Profound

Severity of problem
in your judgement
☐ Mild
☐ Moderate
☐ Severe
☐ Profound

Type of children served in your program
☐ Communication Disorder
☐ Motoric Disability
☐ Sensory Impairment
☐ Cognitive Developmental Delay
☐ Other__________________

Months in current program ____

How many hours was the child involved in the program (choose most appropriate)?

Per week__________________

Per month __________________

Comments:

____
____
____
____
____
____
____
____
____
____
____
____

Influences and Outcomes...

This survey asks about nine influences that parents, professionals and researchers believe affect the child.

- parent-professional relationship
- parent skills and resources
- the way the family works together
- the child's skills and resources
- number of hours a week receiving service
- information given to parents
- child's relationship with the professional
- community agencies
- people in the community

This is not a test.

There are no right or wrong answers to any of the questions. Answer each in the way that best fits you or the child. Your first impression is usually best.

Rate each question on the strength of the influence, either positive or negative. If the influence had no effect, check '0'. If you can't decide or the question doesn't apply, check the box provided.

Sample Question...

	‹ strongly negative							strongly positive ›	
	-4	-3	-2	-1	0	+1	+2	+3	+4
Child achievement?	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ can't decide ☐ doesn't apply

Please turn page for the first influence...

Influence 1:
The parents' relationship with the professional(s) most responsible for carrying out the child's program

What does parent-professional relationship mean to you?

____

____

____

____

____

____

How did the relationship influence these areas...

Child's achievement?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 2:
Parent skills and resources

What does parent skills and resources mean to you?

____

____

____

____

____

____

How did parent skills and resources influence these areas...

Child's achievement?
< strongly negative   strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?
< strongly negative   strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 3:
The way the family works together

What does the way the family works together mean to you?

How did the way the family works together influence these areas...

< strongly negative strongly positive >

Child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

< strongly negative strongly positive >

Father-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 4:
The child's skills and resources

What does the child's skills and resources mean to you?

____

____

____

____

____

____

How did the child's skills and resources influence these areas...

	< strongly negative								strongly positive >
	-4	-3	-2	-1	0	+1	+2	+3	+4
Child's achievement?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Parental expectations about the child's achievement?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Mother-child interaction, including mutual enjoyment and ease of communication?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				

	< strongly negative								strongly positive >
	-4	-3	-2	-1	0	+1	+2	+3	+4
Father-child interaction, including mutual enjoyment and ease of communication?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
How home and program complement each other in meeting the child's needs?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
The family's ability to cope with stress related to the child's problems?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
Reactions and interactions of brothers and sisters?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				
The quality of support for the child and family from friends and neighbors?	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐ can't decide				☐ doesn't apply				

Influence 5:
The number of hours a week receiving service

What does the number of hours a week the child received service mean to you?

____
____
____
____
____
____

How did the number of hours a week influence these areas...

Child's achievement?
< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?
< strongly negative strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 6:
The Information given to parents from the Early Intervention Program

What does the information given to parents mean to you?

____

____

____

____

____

____

How did the information given to parents influence these areas...

Child's achievement?

< strongly negative   strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative   strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 7:
The child's relationship with the professional(s)

What does the child's relationship with the professional(s) most responsible for carrying out the child's program mean to you?

How did the child's relationship with the professional(s) influence these areas...

Child's achievement?

< strongly negative — strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

< strongly negative — strongly positive >
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 8:
Community agencies

What does community agencies including availability of daycare and emotional or physical support from the church, YMCA, etc. mean to you?

How did community agencies influence these areas...

Child's achievement?

‹ strongly negative strongly positive ›
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Father-child interaction, including mutual enjoyment and ease of communication?

‹ strongly negative strongly positive ›
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?

-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Influence 9:
People in the community

What does emotional or physical support from people in the community such as friends and neighbors *mean to you?*

____

____

____

____

____

____

How did people in the community influence these areas...

	< strongly negative							strongly positive >
	-4	-3	-2	-1	0	+1	+2	+3	+4

Child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Parental expectations about the child's achievement?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Mother-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

< strongly negative strongly positive >

Father-child interaction, including mutual enjoyment and ease of communication?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

How home and program complement each other in meeting the child's needs?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The family's ability to cope with stress related to the child's problems?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Reactions and interactions of brothers and sisters?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child from community agencies other than the Early Intervention Program (such as daycare, YMCA, etc.)?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

The quality of support for the child and family from friends and neighbors?
-4 -3 -2 -1 0 +1 +2 +3 +4
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
☐ can't decide ☐ doesn't apply

Satisfaction with Outcome

How would you rate your current satisfaction with...

< strongly dissatisfied … strongly satisfied >

	-4	-3	-2	-1	0	+1	+2	+3	+4
Child's achievement	☐	☐	☐	☐	☐	☐	☐	☐	☐
Parental expectations	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mother-child relationship	☐	☐	☐	☐	☐	☐	☐	☐	☐
Father-child relationship	☐	☐	☐	☐	☐	☐	☐	☐	☐
Home-program consistency	☐	☐	☐	☐	☐	☐	☐	☐	☐
How well the family works together	☐	☐	☐	☐	☐	☐	☐	☐	☐
How brothers and sisters interact	☐	☐	☐	☐	☐	☐	☐	☐	☐
Community agencies	☐	☐	☐	☐	☐	☐	☐	☐	☐
Personal social support	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments

____

____

____

____

____

____

Intervention Influences and Outcomes
Profile Evaluation

If you have more than 10 years of experience in Early Intervention, would you be willing to participate in an Expert Judge Panel to review the validity and usefulness of the I I O P?

☐ Yes ☐ No

If "yes" please provide the following...

Name ______________________________

Phone ______________ Fax ______________

Address ______________________________

____

City __________ Province __________ Postal Code ________

Thank you for taking time to fill out this survey.

Please return the signed consent form with your survey.

APPENDIX B

INFLUENCE/OUTCOME MATRIX

OUTCOMES

INFLUENCES	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP									
PS									
FW									
CI									
INT									
INFO									
CPR									
CA									
PSUP									

Note: **INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; PSUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

APPENDIX C

INTRODUCTION LETTERS AND CONSENT FORMS FOR PHASE I

Dear Parents,

Research suggests that when parents and professionals have similar beliefs about what is important for a child's success, the child tends to be more successful. We hope you will help us develop a survey of parent and professional beliefs about early intervention. We call the survey The Intervention Influences and Outcomes Profile, (the IIOP). We believe that comparing parent and professional IIOP profiles will help programs match their services to individual families more effectively.

The IIOP asks about the importance of various influences to various outcomes in the early intervention process. The influences and outcomes on the IIOP come from research and from our conversations with parents and professionals. They include the child, the family, the community and the program because we believe all of these things act together to make a difference for the child.

The IIOP is not a test. There are no right and wrong answers. The purpose of the IIOP is to give us a practical way to compare parent and professional beliefs.

This is the first formal pilot study for the IIOP. At this point we need to find out how the IIOP works in its present form. With your help, we will be able to decide what changes may be necessary to make the IIOP more effective.

We will also be asking program staff to fill out IIOP surveys on some of the children with whom they work. We don't think it is practical for staff to fill out surveys for all their students so we are asking them each to fill out surveys on three children. They will choose the children at random. If you want a staff person to fill out an IIOP on your child, return the attached form to your program within three days.

If you decide not to participate in this study your services will not be affected in any way. Your participation is strictly voluntary. If you decide to participate, please read the consent form and instructions carefully. Feel free to call us with any questions.

Thankyou in advance for your help. We look forward to hearing from you.

Sincerely,

Kathryn Ritter-Brinton, PhD. Candidate
Phone: 424-4343
Department of Educational Psychology

Parents' Consent Form - Phase One

Project Title: The Intervention Influences and Outcomes Profile (IIOP): A Pilot Study

Investigators: K.R. Brinton and T.O. Maguire, University of Alberta, Department of Educational Psychology

Overview: **Research suggests that when parents and professionals have similar beliefs about what is important for a child's success, the child tends to be more successful.** The IIOP is a survey of parent and professional beliefs. The survey asks about the importance of various influences on children and families in early intervention programs. These influences include: the child, the family, the community and the program. This study is the beginning stage of the IIOP's development. This is a three part study. Parents who volunteer will be invited to participate in the second and third phases. The second phase will take about two hours. The third phase will take about one hour. **This consent is for the first phase of the study only.** We have invited Early Intervention/Preschool programs in Edmonton, Calgary, and Grande Prairie to participate in this study.

Purpose: The purpose of this study is to find out if the IIOP can help preschool programs match their services to parents' beliefs about the most important influences on their child and their family. The first step is to compare parent and professional responses on the IIOP.

Procedures: Fill out the IIOP for your child. (This will take about 45 minutes).

Return the IIOP to the researcher in the self-addressed stamped envelope provided.

Return the red consent form to your child's program to allow a program staff person to fill out an IIOP on your child.

Risks/Benefits: We hope that the results of this study will contribute to better care for future children and their families. There will be no direct benefits for participants. There are no known risks in participating.

Confidentiality: Only the researchers will have access to the IIOP forms returned. No names or identifying information will be released. Returned IIOP forms will be stored in a secure location.

Future Use: Information from this research project may be used in future studies involving the IIOP. Information will remain confidential in all future studies. No identifying information will be used in future studies without specific parental consent.

I may refuse to answer any items on the IIOP. I am free to withdraw my consent and stop my participation at any time. Present or future care for myself and my family members will not be affected if I decide not to participate.

I have read this form. Any of my questions about this study have been answered to my satisfaction. I understand my involvement in this study. I voluntarily agree to participate. I will be given a copy of this consent form.

For the second phase of this study we will ask you to fill out the IIOP in three months and again in six months. This will take about 45 minutes each time. (Please check one)

_____ Yes, I am willing to participate in the next phase of this study.

_____ No, I am not interested in participating in the next phase.

If I have any further questions regarding this study, I can contact Kathryn Brinton at 424-4343.

____
Signature of Participant Date

____
Witness Date

____
Signature of Investigator Date

Dear Colleagues,

Thankyou very much for taking the time in your busy schedules to participate in this project. The following are step by step directions on how to proceed. (The parent consent process and staff selection process may be different than described in my presentation to you). Please feel free to call me with any questions. If you get an answering machine, leave me a detailed message and I'll get back to you as soon as possible.

1. Send out or deliver the parent packages (these include the introductory letter, staff permission slip, parent consent form, IIOP surveys and business mail envelopes).

2. Send parents the PERMISSION REMINDER three days after you give the parents their packages.

3. One week after the parents have received their packages:

    If you receive more than three permission slips for children on your caseload, mix them up and draw 3 names (or however many for whom you are able to do IIOP surveys). Please select names WITHOUT LOOKING.

    Fill out IIOP forms for the children you selected and return them to me with your consent forms in the return mail envelope provided. Remember to ONLY WRITE INFLUENCE DEFINITIONS FOR ONE CHILD.

    Send out the orange REMINDER for parents about the same time that you fill out your IIOP forms.

Thankyou again!

Kathryn Ritter-Brinton, PhD. Candidate
424-4343 (h)
471-2262 (ext 2453), (work,T,W,Th afternoons)

Professional Consent Form - Phase One

Project Title: The Intervention Influences and Outcomes Profile (IIOP): A Pilot Study

Investigators:K.R. Brinton and T.O. Maguire, University of Alberta, Department of Educational Psychology

Overview: This study is the first stage of development for the IIOP. This is a three part study. The first phase involves filling out the IIOP on up to three children randomly selected from your caseload. The first IIOP will take 45 minutes to one hour to fill out. Subsequent IIOPs will take approximately half an hour. Parents and professionals in early intervention programs in the Edmonton region, Red Deer and Calgary have been invited to participate in this study. Some of the professionals who volunteer will be randomly asked to participate in the second and third phases. The second phase involves filling out the IIOP again in one - two weeks. This will take about approximately thirty minutes per child. The number of children will not exceed three. The third phase will involve filling out a questionnaire about the IIOP as an expert judge. **This consent is for the first phase of the study only.**

Purpose: The ultimate purpose of the IIOP is to improve the match between EI services and the family systems they serve. The first step is to see how the IIOP works in its present form.

Procedures: Decide which children on your caseload whose parents returned permission slips you would be comfortable doing an IIOP for. If there are more than three, put the returned permission slips face down and draw between one and three names. The number of names you draw depends on how much time you feel you can commit to the project. Fill out IIOP forms for the children whose names were drawn. **Only fill in item definitions for one child.**

Return the IIOP to the researcher in the self-addressed stamped envelope provided.

Risks/Benefits: We hope that the results of this study will contribute to better care for future children and their families. There will be no direct benefits for participants. There are no known risks in participating.

Confidentiality: Only the researchers will have access to the IIOP forms returned. No names or identifying information will be released. Returned IIOP forms will be stored in a secure location.

Future Use: Information from this research project may be used in future studies involving the IIOP. Information will remain confidential in all future studies. No identifying information will be used in future studies without specific consent form participants.

I may refuse to answer any items on the IIOP. I am free to withdraw my consent and stop my participation at any time. There will be no negative repercussions if I choose not to participate.

I have read this form. Any of my questions about this study have been answered to my satisfaction. I understand my involvement in this study. I voluntarily agree to participate. I will be given a copy of this consent form.

If I have any further questions regarding this study, I can contact Kathryn Brinton at 424-4343.

Signature of Participant Date Signature of

Witness Date

Signature of Investigator Date

For the second phase of this study we will ask you to fill out the IIOP again in one to two weeks. This will take about half an hour per child because you will not be asked to write definitions again.
(Please check one)

_____ Yes, I am willing to participate in the next phase of this study.

_____ No, I am not interested in participating in the next phase.

I have five or more years of experience in early intervention and would like to participate in the third phase of this study. The third phase will involve filling out a questionnaire about the usefulness of the IIOP. It will take less than one hour.
(Please check one) _______Yes _______N0

APPPENDIX D

RESULTS OF PRINCIPAL COMPONENTS ANALYSIS

FACTORS AND HIGHEST ITEM LOADINGS

Results of Principal Components Analysis, (Factor, Highest Loading Only)

OUTCOMES ---->

INF	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP	1, .43	1, .48	13, .55	6, .69	1, .50	13, .63	7, .68	14, .71	3, .50
PS	1, .87	1, .78	1, .84	6, .68	1, .84	1, .62	7, .67	14, .72	12, .72
FW	1, .78	1, .72	1, .73	6, .68	1, .75	1, .66	7, .54	16, .54	12, .73
CI	8, .72	8, .68	8, .69	6, .61	8, .47	8, .58	7, .65	11, .76	12, .73
INT	9, .76	9, .54	3, .55	6, .71	9, .61	9, .60	7, .60	3, .58	3, .79
INFO	4, .77	4, .68	4, .61	6,. 66	4, .75	4, .79	7, .61	4, .57	3, .44
CPR	10, .68	10, .48	3, .66	6, .70	10, .54	10,. 48	7, .56	11, .54	3, .79
CAO	2, .84	2, .82	2, .86	2, .79	2, .78	2, .84	2, .73	2, .80	2, .81
PSUP	5, .75	5, .70	5, .72	6, .69	5, .57	5, .67	5, .60	2, .52	5, .77

Note: **BOLD** = factor number; **regular font** = highest item factor loading; **P = parent; Pr = professional; INF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; SUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes; **FACTORS**: 1 = parent/family; 2 = community agency influences, 3 = relational; 4 = information; 5 = personal support influences; 6 = father-child; 7 = siblings; 8 = child influences; 9 = intensity; 10 = child-professional relationship; 11 = community agency outcomes; 12 = personal support outcomes; 13 = parent-professional relationship; 14 = parent-community agency; 15 = parent skills-family outcomes.

APPENDIX E

STANDARD ERROR OF MEASURE RESULTS

Standard Error of Measure Results

	OUTCOMES ---->								
INF	CO	PE	MC	FC	PH	FM	SB	CAO	PS
PP	.80	.78	.93	.98	.81	.98	.88	1.12	.94
PS	.64	.90	.79	.88	.65	.77	.96	.66	.84
FW	.73	.94	.86	1.18	.77	1.05	.98	.82	.78
CI	.88	.99	.63	.86	.86	.93	.85	1.30	1.10
INT	.98	.98	.83	.88	1.14	.82	.96	.86	1.08
INFO	.97	.87	.98	1.16	.99	.83	.96	1.00	.70
CPR	1.13	1.06	.73	.75	.86	1.12	.86	.51	1.00
CA	.83	.96	.92	1.02	.85	.80	1.04	1.24	1.31
PSUP	.99	.75	.78	.97	.84	1.15	.68	.88	.76

Note: **INF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; PSUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes

APPENDIX F

PARENT AND PROFESSIONAL FOLLOWUP QUESTIONNAIRES

Parent Questionnaire (Spacing condensed for appendix)

1. How important do you think it is for parents and professionals to agree about how Early Intervention works for your child?

   1 2 3 4 5
   not at all crucial

2. How well do you think the IIOP describes how programs and families interact?

   1 2 3 4 5
   very poorly very well

3. How likely would you be to fill out the IIOP if your program was using it?

   1 2 3 4 5
   not at all very

4. How easy was it to understand the instructions for filling out the IIOP?

   1 2 3 4 5
   very difficult very easy

5. How comfortable are you with the idea of using the IIOP to compare your beliefs about Early Intervention with professionals' beliefs?

   1 2 3 4 5
   very uncomfortable very comfortable

6. Would you add anything to the IIOP?
7. Would you take anything out of the IIOP?
8. What changes would you make to the way the IIOP looks?

Please write your own short definition for: (Same on Parent and Professional Forms)

Child achievement
Parents' expectations about child achievement
Mother-child interaction
Father-child interaction
How home and program complement each other
Family ability to cope with stress
Reactions and interactions of brothers and sisters
Quality of support from community agencies
Quality of support from family and friends

9. Any other comments?

Questionnaire for Expert Judge Panel (Spacing condensed for appendix)

Type of program (please check)
developmental delay _____
speech-language _____
motor delay/disability _____
sensory impaired _____
behavior _____
Head Start _____
multiple disabilities _____
(please define) ______________________________

1. How important do you think it is for parents and professionals to agree about how Early Intervention works for the child and family?

   1 2 3 4 5
   not at all crucial

2. How well do you believe the items on the IIOP represent the interaction of client and EI systems?

   1 2 3 4 5
   very poorly very well

3. How helpful do you think the IIOP would be in improving communication with the families in your program?

   1 2 3 4 5
   not at all very

4. How likely would you be to use the IIOP as part of your planning process?

   1 2 3 4 5
   not at all very

5. How helpful do you think the IIOP would be in identifying specific program evaluation targets for your program?

   1 2 3 4 5
   not at all very

6. What changes would you make to the items on the IIOP?

7. What changes would you make to the format of the IIOP?

8. Any other comments?

Thankyou very much for your participation in this project

APPENDIX G

WORDING FOR REVISION OF PROFESSIONAL HOP

Revised Influences and Their Associated Outcomes

Parent-Professional Relationship (PP):

This question is about your relationship with the child's parent(s). "Your relationship" means how you feel about that person. It also means how well you communicate with each other. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility)

Parent Skills and Resources (PS):

This question is about the skills and resources of the child's parents. Skills are what they know and are able to do. This might be something like getting services for the child. Resources are things like support from extended family and financial resources. Resources are also things like patience and creativity. Think about how the parents' skills and resources influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes, Sibling Outcomes, Community Agency Outcomes, Personal Support Outcomes)

How the Family Works (FW): Eliminated

Child Influences:

This question is about the child's skills. Children's skills are their knowledge and abilities. They are also things like curiosity and persistence. Think about how the child's skills influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Sibling Outcomes, Personal Support Outcomes. The 'resources' part of this influence has been eliminated because of limited use by parents and professionals in its definition and because all of the other influences are, in effect, child resources)

Intensity of Intervention, (INT):

This question is about how many hours each week the child spends working with staff people from the early intervention program. Think about how the amount of time the child spent with program staff each week influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes)

Information (INFO):

This question is about the information the parents get from the child's program. This includes written information and spoken information. Think about how this information influenced these areas. (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes, Personal Support Outcomes)

Child-Professional Relationship, (CPR):

This question is about the child's relationship with you, as their program staff person. This relationship includes things about your child, like curiosity. It also includes how the child and the professional feel when they are together. And it includes things about the professional, like knowing how to motivate the child. How did the child's relationship with you influence these areas? (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Father-Child Relationship, Program Home Compatibility, Family Outcomes)

Community Agencies (CA):

This question is about how agencies or organizations in the community help the child's family. This question does not include the early intervention program. Agencies might be the YMCA, or Social Services. Organizations might be church, or a community league. Think about how easy it is to get services and emotional support from them. Think about how helpful services and support are. How did community agencies and organizations influence these areas? (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Program Home Compatibility, Family Outcomes, Sibling Outcomes)

Personal Support Influences (PSUP):

This question is about the personal support the family gets from friends and neighbours (not extended family members). Personal support means that people are understanding, and accepting. It also means that people are willing to help with things like babysitting and transportation. How did personal support influence these areas? (Associated Outcomes: Child Outcomes, Parental Expectations, Mother-Child Relationship, Program Home Compatibility, Family Outcomes, Sibling Outcomes)

Revisions to Outcome Descriptions

Revisions and Rationales

Note the following abbreviations used in this section: CO = Child Outcome; PE = Parental Expectations; MC = Mother-Child Relationship; FC = Father-Child Relationship; FM = Family Outcomes; SB = Sibling Outcomes; CAO = Community Agency Outcomes; PSO = Personal Support Outcomes.

CO	How well the child achieved goals
PE	How much the parent expected the child to do
MC	How well mother communicates with child
	How much mother enjoys child
FC	How much father enjoys child
	How well father communicates with child
PH	How well the family and the program work together
	How much alike the goals of the home and the program were
FM	How well the family works together
	How well the family deals with child's special needs
SB	How well the child gets along with brothers and sisters
	How child and brothers and sisters feel about each other
CA	How easy it was to get services in the community (other than the child's early intervention program)
	How understanding community agencies and organizations were
PSO	How understanding people in the community are
	How helpful friends and neighbours are

Revisions to IIOP Introduction

INFLUENCES AND OUTCOMES

This survey asks about eight influences that parents, professionals and researchers believe affect children with special needs.

- parent-program staff relationship
- parent skills and resources
- the child's skills
- number of hours a week working with program staff
- information given to parents
- the child's relationship with program staff
- community agencies and organizations
- personal support from people in the community

THIS IS NOT A TEST.

There are no right and wrong answers to any of the questions. Answer each in the way that is best for you. It should take about half an hour to complete the survey. Your first impression is usually the best. Think about whether the influence was positive or negative. Rate each question on the strength of the influence on the areas described. If the influence had no effect, check 0. If you can't decide, or the area doesn't apply to you, check the box provided.

DEFINITIONS

CHILD always means the child in the early intervention program

EARLY INTERVENTION includes all programs for children with special needs from the age of 0 to five years old.

APPENDIX H

TEST-RETEST PROPORTIONS OF AGREEMENT FOR 'CAN'T DECIDE' (5) AND 'DOESN'T APPLY'

Test-retest Proportions of Agreement for 'Can't Decide' (5)

OUTCOMES ---->

INF	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP	0			0	0		0	0	0
PS		0	0	.50	0	0	1.00		.50
FW	0	0	0	.50	0	0	1.00	0	1.00
CI		0		.50			.33	0	.67
INT		0		.75	1.00	0	.33	.50	0
INFO				.75			.33	.33	.38
CPR				.50				.17	.17
CA	0	0	0	.40	0	0	0	.17	.17
PSUP	.40	.28	.50	.57	.40	.33	.43	.43	.38

Note: **P = parent; Pr = professional; IF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; SUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes; **Number of cells where 5 was used** in both first and second administrations = 58; **Proportion of agreement calculated** by dividing the actual number of agreements by the number of possible agreements

Test-retest Proportions of Agreement for Doesn't Apply (6)

OUTCOMES ---->

INF	CO	PE	MC	FC	PH	FM	SB	CAO	PSO
PP				.75		.50	.73	.23	.43
PS				.50		0	.78	.45	.20
FW				.50			.67	.62	.25
CI				.50	0	0	.67	.75	.25
INT			0	.60		.50	.62	.71	.44
INFO			1.00	.80		.25	.64	.71	.43
CPR			.50	.67		.33	.69	.58	.50
CA	.71	.86	.57	.89	.56	.57	.38	.56	.60
PSUP	.50	0	.33	.38	.50	.50	.64	.67	.33

Note: **P = parent; Pr = professional; IF = INFLUENCES**: PP = parent-professional relationship; PS = parent skills and resources; FW = how the family works; CI = child influences; INT = intensity of tx.; INFO = information; CPR = child-professional relationship; CA = community agencies; SUP = personal support; **OUTCOMES**: CO = child outcomes; PE = parental expectations; MC = mother-child relationship; FC = father-child relationship; PH = program-home compatibility; FM = family outcomes; SB = sibling outcomes; CAO = community agency outcomes; PSO = personal support outcomes; **Number of cells where 5 was used** in both first and second administrations = 56; **Proportion of agreement calculated** by dividing the actual number of agreements by the number of possible agreements